

* Please expedite (the amended case)

SPT, 1713

DJW

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SEARCH REQUEST FORM

162055

Fuller

THANKS

Scientific and Technical Information Center

Requester's Full Name: HELEN PEZZUTO Examiner #: 70058 Date: _____
Art Unit: 1713 Phone Number: 302-1108 Serial Number: 101802, 706
Mail Box and Bldg/Room Location: REM-10A29 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: SEE ATTACHED

Inventors (please provide full names): _____

SCIENTIFIC REFERENCE BR
Sci & Tech Inf. Ctr.

Earliest Priority Filing Date: 12/20/00 AUG 13 RECD

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

- Search chain transfer agents in forms of "dimers" species in claim 17. Also see p. 6, 10-13, attached, and in form of oligomer defined in claim 20 & p. 16, attached.

- couple the CTA with:
(1) free radical "emulsion polymerization"
(2) latex particle size → nm ranges
(3) surfactant/emulsifier

STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: <u>R Fuller</u>	NA Sequence (#) _____	STN <u>✓</u>
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) <u>6</u>	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic _____	Dr. Link _____
Date Completed: <u>8/11/05</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: <u>40</u>	Fulltext _____	Sequence Systems _____
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____
Online Time: <u>80</u>	Other _____	Other (specify) _____

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FILE COVERS 1907 - 11 Aug 2005 VOL 143 ISS 7
FILE LAST UPDATED: 10 Aug 2005 (20050810/ED)

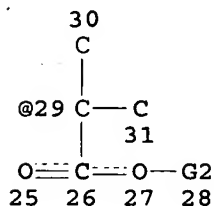
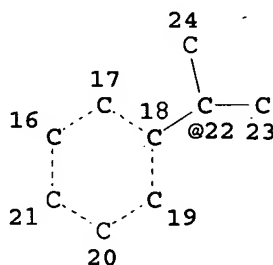
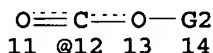
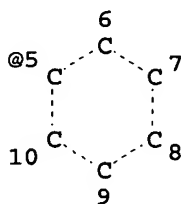
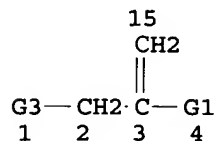
New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate
substance identification.

=> d que 169

L12 1 SEA FILE=REGISTRY ABB=ON 6144-04-3
 L13 1 SEA FILE=REGISTRY ABB=ON 6362-80-7
 L14 1 SEA FILE=REGISTRY ABB=ON 71674-93-6
 L15 1 SEA FILE=REGISTRY ABB=ON 28261-32-7
 L16 1 SEA FILE=REGISTRY ABB=ON 100639-40-5
 L17 1 SEA FILE=REGISTRY ABB=ON 100639-43-8
 L18 1 SEA FILE=REGISTRY ABB=ON 100639-44-9
 L19 1 SEA FILE=REGISTRY ABB=ON 100639-45-0
 L20 1 SEA FILE=REGISTRY ABB=ON 199542-57-9
 L21 1 SEA FILE=REGISTRY ABB=ON 10297-25-3
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 L17 OR L18 OR L19 OR L20 OR L21 OR L22 OR L23 OR L24 OR L25 OR
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 L36 73 SEA FILE=HCAPLUS ABB=ON L35 AND EMULS? (3A) POLYMERI?
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 PARTICL?)
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 L51 STR

Registry
 numbers
 for
 CTA's
 from
 specifications



Query
 covering
 structures I or II
 from
 p 6

670 structures

VAR G1=5/12
 VAR G2=H/AK
 VAR G3=22/29
 NODE ATTRIBUTES:
 DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC I

NUMBER OF NODES IS 31

STEREO ATTRIBUTES: NONE

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SIZE?)
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L68 24 SEA FILE=HCAPLUS ABB=ON L66 OR L67
L69 59 SEA FILE=HCAPLUS ABB=ON L46 OR L68

=> d 169 bib abs ind hitstr 1-59

L69 ANSWER 1 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:638029 HCAPLUS

TI Conjugated diene copolymer latexes, their manufacture by **emulsion polymerization**, and their use for paper coating compositions

IN Hayashi, Mikine

PA Asahi Kasei Chemicals Corporation, Japan

SO Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2005194430	A2	20050721	JP 2004-3345	20040108
PRAI	JP 2004-3345		20040108		

AB Copolymer latexes are manufactured by (A) **emulsion polymerization** of 100 parts monomers comprising aliphatic conjugated diene monomers 10-80, ethylenically unsatd. carboxylic acid monomers 0.5-10, and other monomers 10-89.5 weight%, and (B) blowing of steam into the reaction mixts. to remove unreacted monomers, wherein 0.05-5 parts α -methylstyrene **dimer** (α -MSD) is added when the polymer conversion reaches $\geq 75\%$ after finishing addition of 100 parts of the monomers in the step (A) and before the step (B). The paper coating compns. contain 3-30 parts of the copolymer latexes based on 100 parts pigments. Thus, styrene (St) 20.5, butadiene (BD) 22.5, acrylonitrile (AN) 2, and Me methacrylate (MMA) 5 parts were polymerized in H2O in the presence of Na dodecylbenzenesulfonate 0.5, FeSO4 0.01, tert-dodecyl mercaptan (t-DDM) 0.25, and Na2S2O8 1 part at 45° for 4.5 h, the reaction mixture was heated to 60°, mixed with St 22, BD 9, AN 4, MMA 9, hydroxyethyl acrylate 3, acrylic acid 1, itaconic acid 2, α -MSD 0.1, t-DDM 0.8, and NaHSO3 0.5 part, the reaction mixture was allowed to react at 60° for 1 h, mixed with 0.3 part α -MSD when the polymer conversion reached $\geq 97\%$, blown with steam to remove unreacted monomers, adjusted to pH 8 with a 1:1 NaOH-KOH mixture, and concentrated to solids content 50% to give a copolymer

latex. Paper (basis weight 75 g/m²) was coated on both sides with an aqueous composition (solids content 64%) containing kaolin clay 70, CaCO₃ 30, Na polyacrylate 0.2, NaOH 0.1, starch phosphate ester 2.5, and the copolymer latex 12 parts at 12 g/m² per one side, stored for 12 h at 23° and relative humidity 65%, and calendered to give coated paper showing good dry and wet pick strength, no stickiness, and high blister resistance (up to 230°).

IC ICM C08F002-22

ICS C08F220-00; C08F236-00; D21H019-58

CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)

Section cross-reference(s): 37, 42

ST paper coating copolymer latex **emulsion polymer**;

acrylonitrile butadiene styrene carboxylate copolymer latex; methylstyrene dimer chain transfer styrene copolymer

IT **Polymerization**

(**emulsion**, radical; manufacture of conjugated diene copolymer latexes by **emulsion polymerization** with addition of methylstyrene dimer before steam stripping for paper coatings with high pick strength and blister resistance)

IT Coating materials

Latex

Paper

(manufacture of conjugated diene copolymer latexes by **emulsion polymerization** with addition of methylstyrene dimer before steam stripping for paper coatings with high pick strength and blister resistance)

IT Chain transfer agents

(methylstyrene dimer; manufacture of conjugated diene copolymer latexes by **emulsion polymerization** with addition of methylstyrene dimer before steam stripping for paper coatings with high pick strength and blister resistance)

IT 6144-04-3, α -Methylstyrene dimer

RL: RCT (Reactant); RACT (Reactant or reagent)

(chain-transfer agent; manufacture of conjugated diene copolymer latexes by **emulsion polymerization** with addition of methylstyrene dimer before steam stripping for paper coatings with high pick strength and blister resistance)

IT 439272-61-4P 448927-51-3P, Acrylonitrile-butadiene-2-hydroxyethyl acrylate-itaconic acid-methyl methacrylate-styrene copolymer potassium sodium salt 858654-26-9P 858654-29-2P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(manufacture of conjugated diene copolymer latexes by **emulsion polymerization** with addition of methylstyrene dimer before steam stripping for paper coatings with high pick strength and blister resistance)

IT 6144-04-3, α -Methylstyrene dimer

RL: RCT (Reactant); RACT (Reactant or reagent)

(chain-transfer agent; manufacture of conjugated diene copolymer latexes by **emulsion polymerization** with addition of methylstyrene dimer before steam stripping for paper coatings with high pick strength and blister resistance)

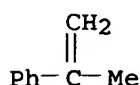
RN 6144-04-3 HCAPLUS

CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)

CM 1

CRN 98-83-9

CMF C9 H10



L69 ANSWER 2 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:638028 HCAPLUS

TI Conjugated diene copolymer latexes, their manufacture by **emulsion polymerization**, and their use for paper coating compositions

IN Hayashi, Mikine

PA Asahi Kasei Chemicals Corporation, Japan

SO Jpn. Kokai Tokkyo Koho, 17 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2005194429	A2	20050721	JP 2004-3344	20040108
PRAI	JP 2004-3344		20040108		

AB Copolymer latexes are manufactured by (A) **emulsion polymerization** of 100 parts monomers comprising aliphatic conjugated diene monomers 10-80, ethylenically unsatd. carboxylic acid monomers 0.5-10, and other monomers 10-89.5 weight%, and (B) blowing of steam into the reaction mixts. to remove unreacted monomers, wherein 0.05-5 parts α -methylstyrene dimer (α -MSD) is added when the polymerization temperature is $\leq 70^\circ$ after finishing addition of 100 parts of the monomers in the step (A) and before the step (B). The paper coating compns. contain 3-30 parts of the copolymer latexes based on 100 parts pigments. Thus, styrene (St) 20.5, butadiene (BD) 22.5, acrylonitrile (AN) 2, and Me methacrylate (MMA) 5 parts were polymerized in H₂O in the presence of Na dodecylbenzenesulfonate 0.5, FeSO₄ 0.01, tert-dodecyl mercaptan (t-DDM) 0.25, and Na₂S₂O₈ 1 part at 45° for 4.5 h, the reaction mixture was heated to 60° , mixed with St 22, BD 9, AN 4, MMA 9, hydroxyethyl acrylate 3, acrylic acid 1, itaconic acid 2, α -MSD 0.1, t-DDM 0.8, and NaHSO₃ 0.5 part, the reaction mixture was allowed to react at 60° for 1 h, mixed with 0.3 part α -MSD when the polymer conversion reached $\geq 95\%$, blown with steam to remove unreacted monomers, adjusted to pH 8 with a 1:1 NaOH-KOH mixture, and concentrated to solids content 50% to give a copolymer latex. Paper (basis weight 75 g/m²) was coated on both sides with an aqueous composition (solids content 64%) containing kaolin clay 70, CaCO₃ 30, Na polyacrylate 0.2, NaOH 0.1, starch phosphate ester 2.5, and the copolymer latex 12 parts at 12 g/m² per one side, stored for 12 h at 23° and relative humidity 65%, and calendered to give coated paper showing good dry and wet pick strength, no stickiness, and high blister resistance (up to 230°).

IC ICM C08F002-22

ICS C08F220-00; C08F236-00; D21H019-58

CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)

Section cross-reference(s): 37, 42

ST paper coating copolymer latex **emulsion polymn**; acrylonitrile butadiene styrene carboxylate copolymer latex; methylstyrene dimer chain transfer styrene copolymer

IT **Polymerization**

(**emulsion**, radical; manufacture of conjugated diene copolymer latexes by **emulsion polymerization** with addition of methylstyrene dimer before steam stripping for paper coatings with high pick strength and blister resistance)

IT Coating materials

Latex

Paper

(manufacture of conjugated diene copolymer latexes by **emulsion polymerization** with addition of methylstyrene **dimer** before steam stripping for paper coatings with high pick strength and blister resistance)

IT Chain transfer agents

(methylstyrene **dimer**; manufacture of conjugated diene copolymer latexes by **emulsion polymerization** with addition of methylstyrene **dimer** before steam stripping for paper coatings with high pick strength and blister resistance)

IT 6144-04-3, α -Methylstyrene dimer

RL: RCT (Reactant); RACT (Reactant or reagent)

(chain-transfer agent; manufacture of conjugated diene copolymer latexes by **emulsion polymerization** with addition of methylstyrene **dimer** before steam stripping for paper coatings with high pick strength and blister resistance)

IT 439272-61-4P 448927-51-3P, Acrylonitrile-butadiene-2-hydroxyethyl acrylate-itaconic acid-methyl methacrylate-styrene copolymer potassium sodium salt 858654-26-9P 858654-29-2P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(manufacture of conjugated diene copolymer latexes by **emulsion polymerization** with addition of methylstyrene **dimer** before steam stripping for paper coatings with high pick strength and blister resistance)

IT 6144-04-3, α -Methylstyrene dimer

RL: RCT (Reactant); RACT (Reactant or reagent)

(chain-transfer agent; manufacture of conjugated diene copolymer latexes by **emulsion polymerization** with addition of methylstyrene **dimer** before steam stripping for paper coatings with high pick strength and blister resistance)

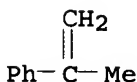
RN 6144-04-3 HCAPLUS

CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)

CM 1

CRN 98-83-9

CMF C9 H10



L69 ANSWER 3 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:450958 HCAPLUS

DN 142:490424

TI Hollow polymer particles, aqueous dispersion thereof and production process thereof

IN Watanabe, Yasuhisa; Tamori, Kouji

PA JSR Corporation, Japan

SO U.S. Pat. Appl. Publ., 13 pp.

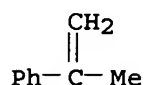
CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2005113505	A1	20050526	US 2004-992816	20041122
	JP 2005154568	A2	20050616	JP 2003-394929	20031126
	EP 1535956	A1	20050601	EP 2004-27754	20041123
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR, IS, YU				
PRAI	JP 2003-394929	A	20031126		
AB	Disclosed are hollow polymer particles composed of a crosslinked polymer having a comparatively small particle diameter and a narrow particle diameter distribution, an aqueous dispersion of the particles, and an ink having good flying property. The hollow polymer particles are obtained by emulsion-polymerizing a crosslinkable polymerizable monomer composition absorbed in seed particles and containing a crosslinkable monomer component and a hydrophilic monomer component, wherein the seed particles are particles of a polymer having a weight average mol. weight of 500 to 15,000, and obtained by emulsion-polymerizing 100 parts by mass of a non-crosslinkable polymerizable monomer in the presence of 0.01 to 5 parts by mass of a chain transfer agent composed of at least one compound selected from the group consisting of α -methylstyrene dimer, thiuram disulfides and terpene hydrocarbons. The ink contains the hollow polymer particles.				
IC	ICM G03G005-00				
INCL	524458000				
CC	74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes) Section cross-reference(s): 35, 38, 42				
ST	hollow polymer particle aq dispersion ink jet printing				
IT	Coating materials (hollow polymer particles, aqueous dispersion for)				
IT	Chain transfer agents (hollow polymer particles, aqueous dispersion thereof and production process thereof)				
IT	Inks (jet-printing; hollow polymer particles, aqueous dispersion for)				
IT	9003-53-6P, Styrene homopolymer 25035-81-8P, Methacrylic acid-methyl methacrylate-styrene copolymer 25085-34-1P, Acrylic acid-styrene copolymer 25767-39-9P, Acrylic acid-methyl methacrylate-styrene copolymer 38684-13-8P, Acrylic acid-acrylonitrile-methyl methacrylate-styrene copolymer RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (hollow polymer particles, aqueous dispersion containing)				
IT	6144-04-3, α-Methylstyrene dimer RL: TEM (Technical or engineered material use); USES (Uses) (hollow polymer particles, aqueous dispersion containing)				
IT	6144-04-3, α-Methylstyrene dimer RL: TEM (Technical or engineered material use); USES (Uses) (hollow polymer particles, aqueous dispersion containing)				
RN	6144-04-3 HCAPLUS				
CN	Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)				
CM	1				
CRN	98-83-9				
CMF	C9 H10				



L69 ANSWER 4 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:365468 HCAPLUS

DN 142:412221

TI Manufacture of aqueous dispersions of anionic or cationic polymers with good dispersion stability

IN Yamashita, Takeshi; Kuramoto, Shigefumi

PA Nippon Shokubai Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2005112878	A2	20050428	JP 2003-344824	20031002
PRAI	JP 2003-344824		20031002		

AB In manufacture of the dispersions by radical polymerization of anionic (or cationic) unsatd. monomers (A) and hydrophobic unsatd. comonomers (B) in aqueous media, (1) seed polymers are formed by radical polymerization of part of the monomers containing A in the presence of 0.05-30% H₂C:CR₄CH₂CR₁R₂R₃ (R₁-3 = H, aliphatic group, aromatic group, acyl, alkoxy carbonyl, aryloxy carbonyl, carbamoyl, alkylsulfonyl, arylsulfonyl, sulfamoyl, COR₁, CO₂R₁, NR₅R₆; R₅, R₆ = H, aliphatic group, aromatic group; R₄ = aromatic group, alkoxy carbonyl, cyano) by using radical polymerization initiators and (2) the residual monomers containing B are added to the aqueous media containing the resulting seed polymers and radically polymerized. Thus, adding 33 g dimethylaminoethyl methacrylate to H₂O, controlling pH at 3 by HCl, adding 67 g styrene and 1.0 g 2,4-diphenyl-4-methyl-1-pentene, heating to 60°, adding 50 g of an aqueous 4% 2,2'-azobis(2-amidinopropane) hydrochloride (I; V 50), polymerizing the monomers to ≥98% conversion, adding 200 g styrene and 100 g of an aqueous 4% I solution to the resulting seed polymer-containing medium, and heating to 75° for 2 h gave a milky white polymer dispersion with weight-average **particle size 230 nm** and good dispersion stability.

IC ICM C08F002-16

CC 37-3 (Plastics Manufacture and Processing)

ST cationic polymer seed styrene polymn aq dispersion; diphenylmethylpentene termination seed polymer aq dispersion prepn

IT Polymerization

(seed; manufacture of aqueous dispersions of anionic or cationic polymers with good dispersion stability)

IT 850257-26-0P, N,N-Dimethylaminoethyl methacrylate hydrochloride-2,4-diphenyl-4-methyl-1-pentene-styrene graft copolymer

850257-27-1P, Acrylic acid-2,4-diphenyl-4-methyl-1-pentene-styrene

graft copolymer 850257-28-2P, Acrylic acid-butyl

methacrylate-2,4-diphenyl-4-methyl-1-pentene graft copolymer

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)

(core-shell; manufacture of aqueous dispersions of anionic or cationic polymers with good dispersion stability)

IT 776312-86-8P, Acrylic acid-2,4-diphenyl-4-methyl-1-pentene-styrene copolymer 850257-24-8P, N,N-Dimethylaminoethyl methacrylate

hydrochloride-2,4-diphenyl-4-methyl-1-pentene-styrene copolymer

850257-25-9P, Acrylic acid-butyl methacrylate-2,4-diphenyl-4-

methyl-1-pentene copolymer

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(seed; manufacture of aqueous dispersions of anionic or cationic polymers with good dispersion stability)

IT 850257-26-0P, N,N-Dimethylaminoethyl methacrylate

hydrochloride-2,4-diphenyl-4-methyl-1-pentene-styrene graft copolymer

850257-27-1P, Acrylic acid-2,4-diphenyl-4-methyl-1-pentene-styrene

graft copolymer 850257-28-2P, Acrylic acid-butyl

methacrylate-2,4-diphenyl-4-methyl-1-pentene graft copolymer

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)

(core-shell; manufacture of aqueous dispersions of anionic or cationic polymers with good dispersion stability)

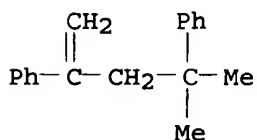
RN 850257-26-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, hydrochloride, polymer with 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bis[benzene] and ethenylbenzene, graft (9CI) (CA INDEX NAME)

CM 1

CRN 6362-80-7

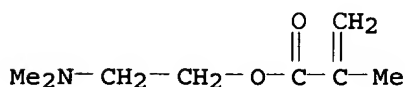
CMF C18 H20



CM 2

CRN 2421-44-5

CMF C8 H15 N O2 . C1 H

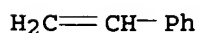


● HCl

CM 3

CRN 100-42-5

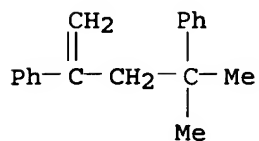
CMF C8 H8



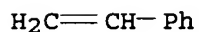
RN 850257-27-1 HCAPLUS

CN 2-Propenoic acid, polymer with 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bis[benzene] and ethenylbenzene, graft (9CI) (CA INDEX NAME)

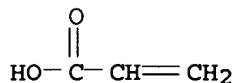
CM 1

CRN 6362-80-7
CMF C18 H20

CM 2

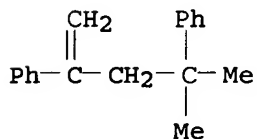
CRN 100-42-5
CMF C8 H8

CM 3

CRN 79-10-7
CMF C3 H4 O2

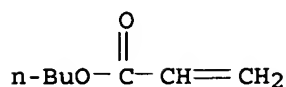
RN 850257-28-2 HCAPLUS
CN 2-Propenoic acid, polymer with butyl 2-propenoate and 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bis[benzene], graft (9CI) (CA INDEX NAME)

CM 1

CRN 6362-80-7
CMF C18 H20

CM 2

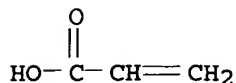
CRN 141-32-2
CMF C7 H12 O2



CM 3

CRN 79-10-7

CMF C3 H4 O2



IT 776312-86-8P, Acrylic acid-2,4-diphenyl-4-methyl-1-pentene-styrene copolymer 850257-24-8P, N,N-Dimethylaminoethyl methacrylate hydrochloride-2,4-diphenyl-4-methyl-1-pentene-styrene copolymer 850257-25-9P, Acrylic acid-butyl methacrylate-2,4-diphenyl-4-methyl-1-pentene copolymer
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (seed; manufacture of aqueous dispersions of anionic or cationic polymers with good dispersion stability)

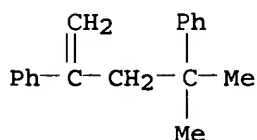
RN 776312-86-8 HCAPLUS

CN 2-Propenoic acid, polymer with 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bis[benzene] and ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 6362-80-7

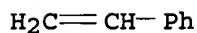
CMF C18 H20



CM 2

CRN 100-42-5

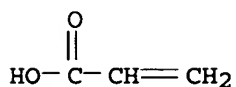
CMF C8 H8



CM 3

CRN 79-10-7

CMF C3 H4 O2



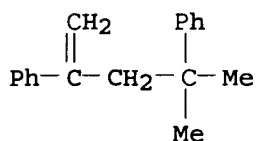
RN 850257-24-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, hydrochloride, polymer with 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bis[benzene] and ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 6362-80-7

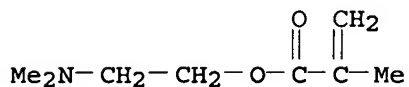
CMF C18 H20



CM 2

CRN 2421-44-5

CMF C8 H15 N O2 . Cl H

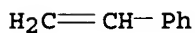


● HCl

CM 3

CRN 100-42-5

CMF C8 H8



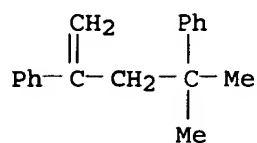
RN 850257-25-9 HCAPLUS

CN 2-Propenoic acid, polymer with butyl 2-propenoate and 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bis[benzene] (9CI) (CA INDEX NAME)

CM 1

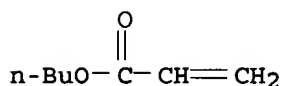
CRN 6362-80-7

CMF C18 H20



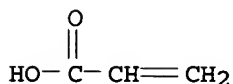
CM 2

CRN 141-32-2
CMF C7 H12 O2



CM 3

CRN 79-10-7
CMF C3 H4 O2



L69 ANSWER 5 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:181348 HCAPLUS

DN 142:241211

TI Crosslinked polymer particles with narrow size distribution and their manufacture

IN Watabe, Yasuhisa; Yoshino, Hiroyuki; Tamori, Koji; Kajiwara, Ichiro

PA JSR Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 19 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2005054108	A2	20050303	JP 2003-287737	20030806
PRAI	JP 2003-287737		20030806		

AB The invention relates to crosslinked polymer particles with number average diameter 0.08-0.9 μm and content of particles with diameter $\pm 10\%$ from the number average diameter $\geq 50\%$. Thus, divinylbenzene and styrene were polymerized in the presence of seed particles of methacrylic acid-styrene copolymer (polymerized in the presence of α -methylstyrene dimer) to give crosslinked particles with 10% weight loss temperature 395°.

IC ICM C08F012-36

ICS C08F002-24

CC 37-3 (Plastics Manufacture and Processing)

ST crosslinked divinylbenzene polymer particle uniform size; seed polymn
divinylbenzene styrene polymer particle

IT Terpenes, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (chain transfer agent for preparing seeds; crosslinked polymer particles
 with narrow size distribution)

IT Polymerization
 (emulsion, seed; crosslinked polymer particles with narrow
 size distribution)

IT Disulfides
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (thiuram, chain transfer agent for preparing seeds; crosslinked polymer
 particles with narrow size distribution)

IT 6144-04-3, α -Methylstyrene dimer
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (chain transfer agent for preparing seeds; crosslinked polymer particles
 with narrow size distribution)

IT 9003-69-4P, Divinylbenzene homopolymer 9003-70-7P, Divinylbenzene-
 styrene copolymer
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP
 (Properties); PREP (Preparation); USES (Uses)
 (crosslinked polymer particles with narrow size distribution)

IT 9010-92-8P, Methacrylic acid-styrene copolymer
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP
 (Properties); PREP (Preparation); USES (Uses)
 (seed; crosslinked polymer particles with narrow size distribution)

IT 6144-04-3, α -Methylstyrene dimer
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (chain transfer agent for preparing seeds; crosslinked polymer particles
 with narrow size distribution)

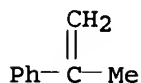
RN 6144-04-3 HCAPLUS

CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)

CM 1

CRN 98-83-9

CMF C9 H10



L69 ANSWER 6 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:996226 HCAPLUS

DN 141:411417

TI Emulsion polymerization process addition-fragmentation
 chain-transfer agents, polymer dispersion and film-forming composition

IN Mestach, Dirk Emiel Paula; Brinkhuis, Richard Hendrikus Gerrit; Roelofs,
 Andreas Henricus Johannes; Van Der Horst, Hendrik Hermanus Rikus

PA Akzo Nobel N.V., Neth.; Van Der Horst, Hendrik Hermanus Rikus

SO PCT Int. Appl., 35 pp.
 CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004099261	A1	20041118	WO 2004-EP4800	20040429
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,				

CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,
SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
SN, TD, TG

PRAI EP 2003-76396 A 20030506

AB The present invention relates to a method to prepare a polymer dispersion using an aqueous substantially **surfactant-free emulsion polymerization** process comprising a seed and a feed stage, in which seed stage at least one ethylenically unsatd. monomer, having a water-solubility of at least 0.3 g/L at polymerization conditions, is polymerized in the presence of an addition fragmentation chain transfer agent and a hydrophilic free radical initiator to form a seed polymer that is substantially insol. in water and in which feed stage at least one ethylenically unsatd. feed monomer is added to the seed polymer to form polymer particles., With this method a polymer dispersion can be obtained having at least 25% solid contents in combination with an average polymer particle size smaller than or equal to 300 nm. The invention further relates to a polymer dispersion obtainable by a **surfactant-free emulsion polymerization** process, a film-forming composition, preferably a coating composition, comprising such a polymer dispersion and coated articles coated with the coating composition. Further, the invention relates to a polymer particle powder obtained from the polymer dispersion and powder coating comps.

IC ICM C08F002-38

ICS C08F012-08; C08F002-22

CC 35-4 (Chemistry of Synthetic High Polymers)

ST polymer dispersion manuf **emulsion polymn**; addn
fragmentation chain transfer agent **emulsion polymn**

IT Chain transfer agents

(addition fragmentation; **emulsion polymerization** process
using addition-fragmentation chain-transfer agents, polymer dispersion and
film-forming composition)

IT Optical dispersion

(agents; **emulsion polymerization** process using
addition-fragmentation chain-transfer agents, polymer dispersion and
film-forming composition)

IT Adhesives

Coating materials

Electrophotographic toners

(**emulsion polymerization** process using addition-fragmentation
chain-transfer agents, polymer dispersion and film-forming composition)

IT **Polymerization**

(**emulsion**; **emulsion polymerization** process using
addition-fragmentation chain-transfer agents, polymer dispersion and
film-forming composition)

IT Coating materials

Paints

(powder; **emulsion polymerization** process using
addition-fragmentation chain-transfer agents, polymer dispersion and
film-forming composition)

IT Inks

(printing; **emulsion polymerization** process using
addition-fragmentation chain-transfer agents, polymer dispersion and
film-forming composition)

IT **Polymerization** catalysts

(radical; emulsion polymerization process using addition-fragmentation chain-transfer agents, polymer dispersion and film-forming composition)

IT 9003-53-6P, Styrene polymer 9011-14-7P, Methyl methacrylate homopolymer
RL: IMF (Industrial manufacture); PREP (Preparation)
(emulsion polymerization process using addition-fragmentation chain-transfer agents, polymer dispersion and film-forming composition)

IT 6144-04-3, α -Methylstyrene dimer
RL: RCT (Reactant); RACT (Reactant or reagent)
(emulsion polymerization process using addition-fragmentation chain-transfer agents, polymer dispersion and film-forming composition)

IT 6144-04-3, α -Methylstyrene dimer
RL: RCT (Reactant); RACT (Reactant or reagent)
(emulsion polymerization process using addition-fragmentation chain-transfer agents, polymer dispersion and film-forming composition)

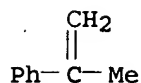
RN 6144-04-3 HCAPLUS

CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)

CM 1

CRN 98-83-9

CMF C9 H10



RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L69 ANSWER 7 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:993314 HCAPLUS

DN 141:397134

TI Manufacture of copolymer latexes for prevention of aggregation, paper coating compositions, and coated paper

IN Hagiwara, Katsuo; Toda, Hideki; Nakano, Hiroshi

PA Nippon Zeon Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004323771	A2	20041118	JP 2003-123477	20030428
PRAI	JP 2003-123477		20030428		

AB The copolymer latexes, prepared by emulsion polymerization of 100 parts monomer mixts. containing conjugated diene monomers 10-89.5, ethylenically unsatd. carboxylic acid monomers 0.5-20, and other monomers 10-89.5%, are manufactured by polymerization while continuously adding $\geq 85\%$ of the monomer mixts., satisfying d.p. at 25%, 50%, and 95% addition 30-50%, 60-80%, and 60-80% resp. Thus, a monomer mixture containing styrene 33, Me methacrylate 10, acrylonitrile 15, 1,3-butadiene 39, acrylic acid 2, tert-dodecylmercaptan 0.7, and α -methylstyrene dimer 1 part was continuously added to a reaction solution containing 1 part itaconic acid, polymerized, and mixed with aqueous NaOH solution to give a polymer latex with number-average particle size 80 nm, which was mixed with pigments, applied on paper on both sides, dried, and calendered to

give coated paper with high dry and wet pick strength and good blister resistance.

IC ICM C08F002-22
ICS B05D007-00; C08F002-38; D21H019-58

CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)
Section cross-reference(s): 37, 42

ST **emulsion polymn** latex coating coated paper; styrene
acrylic itaconic acid polymer sodium latex; dodecylmercaptan methylstyrene
dimer mol wt controller; acrylonitrile methyl methacrylate
butadiene polymer latex

IT Paper
(coated; manufacture of copolymer latexes for coating compns. for paper)

IT **Polymerization**
(**emulsion**; manufacture of copolymer latexes for coating compns.
for paper)

IT Coating materials
(manufacture of copolymer latexes for coating compns. for paper)

IT Thiols, uses
RL: NUU (Other use, unclassified); USES (Uses)
(mol. weight controller; manufacture of copolymer latexes for coating compns.
for paper)

IT 605629-46-7P, Acrylic acid-acrylonitrile-1,3-butadiene-itaconic
acid-methyl methacrylate-styrene copolymer sodium salt
RL: IMF (Industrial manufacture); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)
(manufacture of copolymer latexes for coating compns. for paper)

IT **6144-04-3, α -Methylstyrene dimer** 25103-58-6,
tert-Dodecylmercaptan
RL: NUU (Other use, unclassified); USES (Uses)
(mol. weight controller; manufacture of copolymer latexes for coating compns.
for paper)

IT **6144-04-3, α -Methylstyrene dimer**
RL: NUU (Other use, unclassified); USES (Uses)
(mol. weight controller; manufacture of copolymer latexes for coating compns.
for paper)

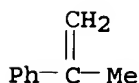
RN 6144-04-3 HCAPLUS

CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)

CM 1

CRN 98-83-9

CMF C9 H10



L69 ANSWER 8 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:960353 HCAPLUS

DN 141:412623

TI Size agent for clear coat and manufacture of coated paper with good
printability

IN Yokoi, Hiroaki; Ikeda, Takeshi

PA Seiko PMC Corporation, Japan

SO Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004316031	A2	20041111	JP 2003-112832	20030417
PRAI	JP 2003-112832		20030417		

AB The waterborne size agent is prepared by emulsion polymer of 2,4-diphenyl-4-methyl-1-pentene, alkyl (meth)acrylates, and anionic monomers in the presence of surfactants and neutralizing with a base. Heating H₂O 593, iso-Bu methacrylate 125, 80% methacrylic acid 104, 2,4-diphenyl-4-methyl-1-pentene 6.3, Antox MS 60 2.1 part to 70°, stirring with 8.2 part (NH₄)₂S₂O₈ under N, heating 2 h, and neutralizing with 30% NaOH gave a dispersion with solids content 25.2%, viscosity 800 cPs, and pH 7.9.

IC ICM D21H019-20
ICS C08F002-26; C08F210-14; D21H021-16

CC 43-6 (Cellulose, Lignin, Paper, and Other Wood Products)
Section cross-reference(s): 38

ST size agent clear coat coated paper good printability; acrylic polyoxyalkylene sodium salt size paper

IT Polyoxyalkylenes, uses
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acrylic, salts; size agent for clear coat and manufacture of coated paper with good printability)

IT Paper
(coated; size agent for clear coat and manufacture of coated paper with good printability)

IT Sizes (agents)
(size agent for clear coat and manufacture of coated paper with good printability)

IT Ionomers
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(size agent for clear coat and manufacture of coated paper with good printability)

IT 6362-80-7, 2,4-Diphenyl-4-methyl-1-pentene
RL: RCT (Reactant); RACT (Reactant or reagent)
(chain transfer agent; size agent for clear coat and manufacture of coated paper with good printability)

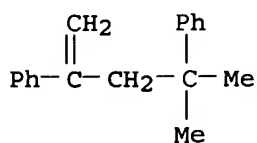
IT 1331-61-9, Newcol 210
RL: NUU (Other use, unclassified); USES (Uses)
(emulsifier; size agent for clear coat and manufacture of coated paper with good printability)

IT 148658-50-8P, Isobutyl methacrylate-methacrylic acid copolymer sodium salt 790922-59-7P 790922-74-6P 790922-88-2P 790923-03-4P 790923-17-0P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(size agent for clear coat and manufacture of coated paper with good printability)

IT 6362-80-7, 2,4-Diphenyl-4-methyl-1-pentene
RL: RCT (Reactant); RACT (Reactant or reagent)
(chain transfer agent; size agent for clear coat and manufacture of coated paper with good printability)

RN 6362-80-7 HCAPLUS

CN Benzene, 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bis- (9CI) (CA INDEX NAME)



L69 ANSWER 9 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:851979 HCAPLUS

DN 142:24008

TI Method of producing high impact thermoplastic resin composition

IN Jung, Ha Sik; Yoo, Byung Kyu

PA Cheil Industries Inc., S. Korea

SO Repub. Korea, No pp. given

CODEN: KRXXFC

DT Patent

LA Korean

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	KR 173164	B1	19990330	KR 1995-4897	19950310
PRAI	KR 1995-4897		19950310		

AB A process for preparing a resin composition having excellent impact resistance by using a mol. weight controlling agent is provided which produces a resin having improved phys. properties balance. The process comprises preparing an **emulsion polymerization** by grafting 70 to 35 parts by weight of an aromatic vinyl monomer and an unsatd. nitrile in the presence of 30 to 65 parts by weight of a rubber polymer latex having a mean particle diameter of 0.20 to 0.40 μm , wherein the process comprises a first stage reaction in which at least one or two or more mixts. selected from the group consisting of an α -methylstyrene **dimer**, terpinolene, dipentene, α -terpinene, γ -terpinene, as a mol. weight controlling agent are reacted with the rubber polymer latex, a part of a graft monomer, ion exchanged ion, an **emulsifier**, a **polymerization** initiator and a second stage reaction in which a mixture of a remaining graft monomer and a mol. weight controlling agent, a **polymerization** initiator, and an **emulsifier** are reacted.

IC ICM C08F253-00

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 35, 39

ST high impact thermoplastic resin compn; graft **emulsion**

polymn rubber latex thermoplastic resin compn

IT **Polymerization**

Polymerization catalysts

(**emulsion**, graft; preparation of high-impact thermoplastic resin composition containing grafted rubber latex)

IT **Polymerization** catalysts

(graft, **emulsion**; preparation of high-impact thermoplastic resin composition containing grafted rubber latex)

IT Rubber, uses

RL: MOA (Modifier or additive use); USES (Uses)

(grafted; preparation of high-impact thermoplastic resin composition containing grafted rubber latex)

IT Nitriles, preparation

Vinyl compounds, preparation

RL: POF (Polymer in formulation); SPN (Synthetic preparation); PREP

(Preparation); USES (Uses)

(polymers; preparation of high-impact thermoplastic resin composition containing

grafted rubber latex)

IT Emulsifying agents
Impact-resistant materials
(preparation of high-impact thermoplastic resin composition containing grafted rubber latex)

IT Plastics, preparation
RL: POF (Polymer in formulation); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(thermoplastics; preparation of high-impact thermoplastic resin composition containing grafted rubber latex)

IT 99-85-4, γ -Terpinene 99-86-5, α -Terpinene 138-86-3, Dipentene 586-62-9, Terpinolene 6144-04-3, α -Methylstyrene dimer
RL: NUU (Other use, unclassified); USES (Uses)
(mol. weight controlling agent; preparation of high-impact thermoplastic resin composition containing grafted rubber latex)

IT 6144-04-3, α -Methylstyrene dimer
RL: NUU (Other use, unclassified); USES (Uses)
(mol. weight controlling agent; preparation of high-impact thermoplastic resin composition containing grafted rubber latex)

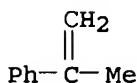
RN 6144-04-3 HCAPLUS

CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)

CM 1

CRN 98-83-9

CMF C9 H10



L69 ANSWER 10 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:651425 HCAPLUS

DN 141:175557

TI Water-resistant polymer powders with good redispersibility, their compositions, and their use for binders and additives for coatings, inks, adhesives, and filling materials

IN Suzuki, Kenya; Nagase, Sumie; Sano, Makoto; Sugishima, Masami

PA Kansai Paint Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004224866	A2	20040812	JP 2003-12450	20030121
PRAI	JP 2003-12450		20030121		

AB Title powders are manufactured by powderization of emulsions manufactured by emulsion polymerization of polymerizable monomers in the presence of protective colloids obtained by radical polymer of monomers containing CO₂H-containing polymerizable unsatd. monomers and methacryloyl group-containing polymerizable unsatd. monomers in the presence of 2,4-diphenyl-4-methyl-1-pentene. Thus, 150 parts isobornyl methacrylate and 150 parts Bu acrylate were

- emulsion polymerized in the presence of (NH₄)₂S₂O₈ and protective colloid containing 781:344 iso-Bu methacrylate-methacrylic acid copolymer, spray-dried, redispersed in water, and dried to give water-resistant coating.
- IC ICM C08F002-22
ICS C08F002-44; C08F265-00; C09D011-00; C09D133-00; C09J157-00; C09J157-10; C09D005-02
- CC 42-7 (Coatings, Inks, and Related Products)
Section cross-reference(s): 38, 58
- ST water resistant coating isobornyl methacrylate copolymer; butyl acrylate copolymer powder redispersibility coating; emulsion polymn protective colloid isobutyl methacrylate methacrylic acid copolymer; binder additive ink adhesive filler methacrylate copolymer; charge transfer diphenylmethylpentene protective colloid manuf
- IT Chain transfer agents
(2,4-diphenyl-4-methyl-1-pentene; manufacture of water-resistant polymer powders with good redispersibility for binders and additives for coatings, inks, adhesives, and filling materials)
- IT Polymerization
(emulsion; manufacture of water-resistant polymer powders with good redispersibility for binders and additives for coatings, inks, adhesives, and filling materials)
- IT Water-resistant materials
(inks; manufacture of water-resistant polymer powders with good redispersibility for binders and additives for coatings, inks, adhesives, and filling materials)
- IT Binders
Cement
(manufacture of water-resistant polymer powders with good redispersibility for binders and additives for coatings, inks, adhesives, and filling materials)
- IT Polymerization
(radical; manufacture of water-resistant polymer powders with good redispersibility for binders and additives for coatings, inks, adhesives, and filling materials)
- IT Adhesives
Coating materials
Inks
(water-resistant; manufacture of water-resistant polymer powders with good redispersibility for binders and additives for coatings, inks, adhesives, and filling materials)
- IT 6362-80-7, 2,4-Diphenyl-4-methyl-1-pentene
RL: NUU (Other use, unclassified); USES (Uses)
(charge-transfer agent; manufacture of water-resistant polymer powders with good redispersibility for binders and additives for coatings, inks, adhesives, and filling materials)
- IT 91000-02-1P, Butyl acrylate-isobornyl methacrylate copolymer
733024-63-0P, Butyl acrylate-diacetoneacrylamide-isobornyl methacrylate copolymer
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of water-resistant polymer powders with good redispersibility for binders and additives for coatings, inks, adhesives, and filling materials)
- IT 37916-03-3P, Isobutyl methacrylate-methacrylic acid copolymer
733024-62-9P, Acetoacetoxyethyl methacrylate-isobutyl methacrylate-methacrylic acid copolymer
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(protective colloid; manufacture of water-resistant polymer powders with good redispersibility for binders and additives for coatings, inks, adhesives, and filling materials)

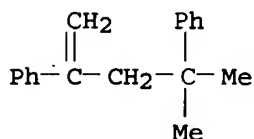
IT 6362-80-7, 2,4-Diphenyl-4-methyl-1-pentene

RL: NUU (Other use, unclassified); USES (Uses)

(charge-transfer agent; manufacture of water-resistant polymer powders with good redispersibility for binders and additives for coatings, inks, adhesives, and filling materials)

RN 6362-80-7 HCAPLUS

CN Benzene, 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bis- (9CI) (CA INDEX NAME)



L69 ANSWER 11 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:631980 HCAPLUS

DN 141:158603

TI Electrically conducting polymers, white primers, and formation of water-resistant multilayered coatings with good recyclability

IN Nakahara, Shuichi; Onoyama, Hiroyuki; Kataoka, Yasuyuki

PA Kansai Paint Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 22 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004217872	A2	20040805	JP 2003-9836	20030117
PRAI	JP 2003-9836		20030117		

AB In title polymers prepared by (1) radical **polymerization** of (A) methacrylic acid and/or methacrylic acid esters and optional (B) other copolymerizable unsatd. monomers in the presence of addition-cleavage-type chain-transfer agents and optional radical **polymerization** initiators and (2) radical **polymerization** of the resulting macromonomers and (C) **polymerizable** unsatd. monomers optionally in the presence of radical **polymerization** initiators, B and/or C contain monomers having ≥ 1 ionic functional groups selected from quaternary ammonium salts, tertiary sulfonium salts, quaternary phosphonium salts, carboxylic acids, sulfonic acids, sulfonic acid salts, and phosphoric acids. Multilayered coatings are formed by (1) applying primers containing the polymers, chlorinated polyolefins, and white pigments, (2) setting or hot drying, (3) electrostatically applying colored base coatings, (4) electrostatically applying clear coatings at uncured states, and (5) baking. Thus, Bu methacrylate (I)-2-hydroxyethyl methacrylate (II) copolymer, I, II, and methacrylic acid were **polymerized** in the presence of AIBN and mixed with a benzyltrimethylammonium hydroxide MeOH solution to give a polymer. Then, the polymer was mixed with chlorinated maleated polypropylene, Sanprene UX 5100A (urethane **emulsion**), Bayhydur 3100 (polyisocyanurate), and JR 903 (Ti white) to give a primer showing high elec. conductivity and good whiteness.

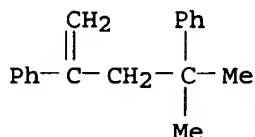
IC ICM C08F290-04

ICS C08F008-44; C09D005-00; C09D005-24; C09D007-12; C09D123-28;

C09D133-02; C09D133-10; C09D133-14; C09D143-02; C09D155-00;
C09D157-06

- CC 42-7 (Coatings, Inks, and Related Products)
Section cross-reference(s): 37, 76
- ST acrylic macromonomer polymer conductor white primer; water resistance
acrylic macromer polymer primer; recyclability acrylic macromer polymer
conducting primer; electrostatic coating acrylic polymer conductor primer;
chlorinated polyolefin acrylic polymer conductor primer
- IT Polyesters, uses
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM
(Technical or engineered material use); PREP (Preparation); USES (Uses)
(acrylic, block; elec. conducting polymers for white primers of
plastics in electrostatic coating)
- IT Polyolefins
RL: POF (Polymer in formulation); TEM (Technical or engineered material
use); USES (Uses)
(chlorinated; elec. conducting polymers for white primers of plastics
in electrostatic coating)
- IT Binders
Conducting polymers
Electrostatic deposition
Primers (paints)
(elec. conducting polymers for white primers of plastics in
electrostatic coating)
- IT Coating materials
(elec. conductive; elec. conducting polymers for white primers of
plastics in electrostatic coating)
- IT Mica-group minerals, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material
use); USES (Uses)
(fillers, coated with elec. conductors; elec. conducting polymers for
white primers of plastics in electrostatic coating)
- IT Coating materials
(water-resistant; elec. conducting polymers for white primers of
plastics in electrostatic coating)
- IT 6362-80-7, 2,4-Diphenyl-4-methyl-1-pentene
RL: RCT (Reactant); RACT (Reactant or reagent)
(addition-cleavage-type chain-transfer agents; elec. conducting polymers
for white primers of plastics in electrostatic coating)
- IT 1332-29-2, Tin oxide 12673-86-8, Antimony tin oxide 50926-11-9, ITO
RL: MOA (Modifier or additive use); TEM (Technical or engineered material
use); USES (Uses)
(coatings for mica, elec. conducting fillers; elec. conducting polymers
for white primers of plastics in electrostatic coating)
- IT 729084-48-4P 729084-55-3P 729084-62-2P 729084-71-3P 729084-78-0P
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM
(Technical or engineered material use); PREP (Preparation); USES (Uses)
(elec. conducting polymers for white primers of plastics in
electrostatic coating)
- IT 9003-07-0D, Polypropylene, maleated, chlorinated
RL: POF (Polymer in formulation); TEM (Technical or engineered material
use); USES (Uses)
(elec. conducting polymers for white primers of plastics in
electrostatic coating)
- IT 13463-67-7, JR 903, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(pigments; elec. conducting polymers for white primers of plastics in
electrostatic coating)
- IT 108-31-6, Maleic anhydride, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material

use); USES (Uses)
 (reaction products with polypropylene, chlorinated; elec. conducting polymers for white primers of plastics in electrostatic coating)
 IT 6362-80-7, 2,4-Diphenyl-4-methyl-1-pentene
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (addition-cleavage-type chain-transfer agents; elec. conducting polymers for white primers of plastics in electrostatic coating)
 RN 6362-80-7 HCAPLUS
 CN Benzene, 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bis- (9CI) (CA INDEX NAME)



L69 ANSWER 12 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2004:376410 HCAPLUS
 DN 141:71889
 TI Addition-fragmentation **chain transfer** reactivities of
 α -methylstyrene unsaturated dimer
 AU Yamada, Bunichiro; Inoue, Kentarou
 CS Department of Applied and Bioapplied Chemistry, Graduate School of
 Engineering, Osaka City University, 3-3-138 Sugimoto, Sumiyoshi-ku, Osaka,
 558-8585, Japan
 SO Kobunshi Ronbunshu (2004), 61(4), 275-281
 CODEN: KBRBA3; ISSN: 0386-2186
 PB Kobunshi Gakkai
 DT Journal
 LA Japanese
 AB The α -methylstyrene unsatd. dimer (2,4-diphenyl-4-methyl-1-pentene,
 MSD) was used for photosensitized styrene (St) polymerization at 30-130°C.
 The adduct radical formed from MSD was detected by ESR spectroscopy to
 monitor the after effect. The rate consts. (k_t) for mutual reaction
 of the adduct radical were calculated from the decay curves. The k_t ,
 values at 100°C or above deviated from the linear relationship
 obtained by the Arrhenius plot at lower temps. The adduct radical was
 considered to react mutually and to undergo β -fragmentation. The
chain transfer constant of MSD at 100 and 130°C
 were 0.26 and 0.46, resp. A kinetic equation consisting of the terms of
 bimol. reaction and β -fragmentation was derived and the rate consts.
 for these reactions were estimated at different temps. **Chain**
transfer consts. of MSD were calculated from the Mayo equation: 0.26
 and 0.46 at 100 and 130°C, resp. It was predicted that MSD acts as
 an effective **chain transfer** agent in styrene polymerization
 to reduce mol. weight and to introduce the 2-phenyl-2-propenyl end group
 competing with addition of the adduct radical to styrene over the temperature range
 examined. More significant acceleration of the, fragmentation with
 increasing temperature than the mutual reaction results in higher **chain**
transfer reactivity of MSD at higher temps. MSD also act as an
 effective AFCT agent in Me methacrylate polymerization
 CC 35-3 (Chemistry of Synthetic High Polymers)
 ST styrene polymn diphenylmethylpentene addn fragmentation **chain**
transfer reactivity
 IT Polymerization
 Polymerization kinetics

(addition-fragmentation **chain transfer** reactivities of
 α -methylstyrene unsatd. dimer in styrene polymerization)

IT Molecular weight
Molecular weight distribution
(of polystyrene; addition-fragmentation **chain transfer**
reactivities of α -methylstyrene unsatd. dimer in styrene polymerization)

IT 6362-80-7, 2,4-Diphenyl-4-methyl-1-pentene
RL: NUU (Other use, unclassified); USES (Uses)
(addition-fragmentation **chain transfer** reactivities of
 α -methylstyrene unsatd. **dimer** in styrene polymerization)

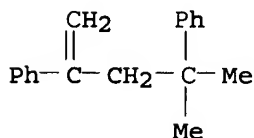
IT 9003-53-6P, Polystyrene
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(addition-fragmentation **chain transfer** reactivities of
 α -methylstyrene unsatd. dimer in styrene polymerization)

IT 100-42-5, Styrene, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(addition-fragmentation **chain transfer** reactivities of
 α -methylstyrene unsatd. dimer in styrene polymerization)

IT 6362-80-7, 2,4-Diphenyl-4-methyl-1-pentene
RL: NUU (Other use, unclassified); USES (Uses)
(addition-fragmentation **chain transfer** reactivities of
 α -methylstyrene unsatd. **dimer** in styrene polymerization)

RN 6362-80-7 HCAPLUS

CN Benzene, 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bis- (9CI) (CA
INDEX NAME)



L69 ANSWER 13 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:750502 HCAPLUS

DN 139:231808

TI Heat- and oil-resistant automobile bumper cores with good recyclability
and cushioning properties

IN Kotani, Masahiro; Kato, Tetsuya

PA Hitachi Chemical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003267166	A2	20030925	JP 2002-67053	20020312
PRAI	JP 2002-67053		20020312		

AB The bumper core is blowing agent-impregnated acrylonitrile-styrene
copolymer in a honeycomb, slit, or convex structure. Thus, acrylonitrile
and styrene were **emulsion-polymerized** in the presence of
 α -methylstyrene **dimer**, impregnated with butane, pre-blown,
and press-molded to give a foam bumper core with porosity 50%.

IC ICM B60R019-22

ICS C08F002-38; C08F012-00; C08J009-04; C08L025-12

CC 38-3 (Plastics Fabrication and Uses)

ST automobile bumper core foam heat resistance; oil resistance acrylonitrile

styrene polymer bumper; recyclability emulsion polymer automobile bumper

IT Automobiles
(bumpers; heat- and oil-resistant automobile bumper cores of foamable resins with good recyclability and cushioning properties)

IT Plastic foams
RL: TEM (Technical or engineered material use); USES (Uses)
(heat- and oil-resistant automobile bumper cores of foamable resins with good recyclability and cushioning properties)

IT 106-97-8, Butane, uses
RL: NUU (Other use, unclassified); USES (Uses)
(blowing agent; heat- and oil-resistant automobile bumper cores of foamable resins with good recyclability and cushioning properties)

IT 6144-04-3, α -Methylstyrene dimer
RL: RCT (Reactant); RACT (Reactant or reagent)
(chain-transfer agent, emulsion polymerization with; heat- and oil-resistant automobile bumper cores of foamable resins with good recyclability and cushioning properties)

IT 9003-54-7P, Acrylonitrile-styrene copolymer
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(emulsion-polymerized; heat- and oil-resistant automobile bumper cores of foamable resins with good recyclability and cushioning properties)

IT 6144-04-3, α -Methylstyrene dimer
RL: RCT (Reactant); RACT (Reactant or reagent)
(chain-transfer agent, emulsion polymerization with; heat- and oil-resistant automobile bumper cores of foamable resins with good recyclability and cushioning properties)

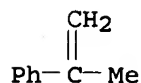
RN 6144-04-3 HCAPLUS

CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)

CM 1

CRN 98-83-9

CMF C9 H10



L69 ANSWER 14 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:376907 HCAPLUS

DN 138:369391

TI Preparation of crosslinkable polymer composition using chain-transfer agents

IN Brinkhuis, Richard Hendrikus Gerrit; Roelofs, Andreas Henricus Johannes; Mestach, Dirk Emiel Paula; Elfrink, Petrus Johannes Maria David; Pilaszek, Wincenty Lambertus Stanislaw; Van der Horst, Richard

PA Akzo Nobel N.V., Neth.

SO PCT Int. Appl., 42 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 3

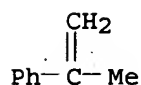
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	WO 2003040192	A2	20030515	WO 2002-EP12477	20021105

WO 2003040192 A3 20040212
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF,
CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
CA 2465715 AA 20030515 CA 2002-2465715 20021105
EP 1448611 A2 20040825 EP 2002-802658 20021105
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK
JP 2005508412 T2 20050331 JP 2003-542237 20021105
PRAI EP 2001-204311 A 20011107
WO 2002-EP12477 W 20021105
AB The invention pertains to a polymer obtainable from the steps: polymerizing an
organic solvent-free mixture of ethylenically unsatd. monomers which consist
for at least 70% of methacrylates, and which comprises specific chain
transfer agents, α -methylstyrene dimer being preferred, to
form a first polymer, aqueous emulsion polymerizing a mixture
comprising ethylenically unsatd. monomers in the presence of the first
polymer to form a dispersion of a water-insol. second polymer, wherein
these steps are preferably performed in the absence or the substantial
absence of a surfactant. A Bu methacrylate-2-hydroxyethylmethacrylate-
methacrylic acid copolymer was prepared in the presence of
 α -methylstyrene dimer.
IC ICM C08F002-38
ICS C08F290-04; C09D151-00
CC 35-4 (Chemistry of Synthetic High Polymers)
ST methylstyrene dimer chain transfer agent crosslinkable
methacrylate polymer manuf
IT Adhesives
Chain transfer agents
Polymerization
(preparation of crosslinkable polymer composition using chain-transfer agents)
IT Inks
(printing; preparation of crosslinkable polymer composition using chain-transfer
agents)
IT Coating materials
(water-thinned; preparation of crosslinkable polymer composition using
chain-transfer agents)
IT 6144-04-3, α -Methylstyrene dimer
RL: MOA (Modifier or additive use); USES (Uses)
(chain transfer agent; preparation of crosslinkable polymer composition using
chain-transfer agents)
IT 42120-80-9P, Butyl methacrylate-2-Hydroxyethylmethacrylate-Methacrylic
Acid copolymer
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
(Reactant or reagent)
(preparation of crosslinkable polymer composition using chain-transfer agents)
IT 28262-63-7P, Butyl methacrylate-Methacrylic acid-methylmethacrylate
copolymer 173091-78-6P 236390-16-2P 312495-23-1P,
Acetoacetoxyethylmethacrylate-2-ethyl hexyl acrylate-Methacrylic
acid-Methyl methacrylate-Styrene copolymer 524707-41-3P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)
(preparation of crosslinkable polymer composition using chain-transfer agents)

IT 6144-04-3, α -Methylstyrene dimer
 RL: MOA (Modifier or additive use); USES (Uses)
 (chain transfer agent; preparation of crosslinkable polymer composition using chain-transfer agents)
 RN 6144-04-3 HCAPLUS
 CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)

CM 1

CRN 98-83-9
 CMF C9 H10



L69 ANSWER 15 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2003:282627 HCAPLUS
 DN 138:288454
 TI Production of aqueous styrene-butadiene polymer dispersions by radical emulsion polymerization
 IN Gaschler, Wolfgang; Schaedler, Volker; Manders, Lambertus; Wirth, Thomas; Kroener, Hubertus
 PA Basf Aktiengesellschaft, Germany
 SO PCT Int. Appl., 30 pp.
 CODEN: PIXXD2
 DT Patent
 LA German
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003029316	A1	20030410	WO 2002-EP10969	20020930
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	DE 10148511	A1	20030410	DE 2001-10148511	20011001
	CA 2461948	AA	20030410	CA 2002-2461948	20020930
	EP 1434806	A1	20040707	EP 2002-779444	20020930
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
	BR 2002012875	A	20041013	BR 2002-12875	20020930
	JP 2005504155	T2	20050210	JP 2003-532557	20020930
	US 2004242766	A1	20041202	US 2004-491279	20040331
PRAI	DE 2001-10148511	A	20011001		
	WO 2002-EP10969	W	20020930		

AB An aqueous styrene-butadiene polymer dispersion is produced by radical aqueous emulsion polymerization of a monomer mixture comprising styrene, butadiene, and up to 30%, with regard to 100% of the monomers, of ethylenically unsatd. comonomers that differ from styrene and butadiene. The reaction is carried out in a polymerization vessel according to a monomer

supply method in the presence of a regulator system comprising, in relation to 100% of the monomers, 0.02-0.5% of at least one C6-C20-hydrocarbon selected from compds. forming a pentadienyl radical or a 1-phenylallyl radical by abstraction of a hydrogen atom, or α -methylstyrene dimer, and 0.3-2% of an organic compound having at least one SH group. The method is characterized in that at least 30%, preferably at least 50%, especially at least 80%, and ideally the entire amount (or more than 95%) of the C6-C20-hydrocarbon is present in the polymerization vessel prior to the monomer supply. The styrene-butadiene polymer dispersion is used as a binder in pigment-containing paper coating compns. to produce paper with good printability and optical properties. Thus, acrylic acid-butadiene-styrene copolymer was produced by radical aqueous emulsion polymerization at 85° using polystyrene seeds (30 nm), sodium peroxodisulfate initiator, and a chain-transfer agent system comprising p-1,4(8)-menthadiene and n-dodecylmercaptan. A paper coating composition comprised an aqueous 50%-dispersion of this copolymer (20), calcium carbonate (70), kaolin (30), poly(acrylic acid) sodium salt (0.4), 25%-sodium hydroxide solution (0.05), CM-cellulose (0.5), and water (64 parts).

IC ICM C08F212-08

ICS C08F236-06; C08F291-00; D21H017-35

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 42, 43

ST radical emulsion polymn aq styrene butadiene

dispersion prodn; chain transfer agent styrene butadiene radical

emulsion polymn; styrene butadiene dispersion binder

paper coating compn

IT Thiols, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(C4-C18, chain-transfer agents; production of aqueous styrene-butadiene polymer dispersions by radical emulsion polymerization)

IT Hydrocarbons, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(C6-20, unsatd., chain-transfer agents; production of aqueous styrene-butadiene polymer dispersions by radical emulsion polymerization)

IT Binders

Coating materials

Paper

(aqueous styrene-butadiene polymer dispersions used as binders in paper coating compns.)

IT Polymerization

(emulsion, radical, aqueous; production of aqueous styrene-butadiene polymer dispersions by radical emulsion polymerization)

IT Chain transfer agents

(production of aqueous styrene-butadiene polymer dispersions by radical emulsion polymerization)

IT 99-85-4, p-1,4-Menthadiene 112-55-0, n-Dodecylmercaptan 586-62-9,

p-1,4(8)-Menthadiene 6144-04-3, α -Methylstyrene

dimer

RL: RCT (Reactant); RACT (Reactant or reagent)

(chain-transfer agent; production of aqueous styrene-butadiene polymer dispersions by radical emulsion polymerization)

IT 7775-27-1, Sodium peroxodisulfate

RL: CAT (Catalyst use); USES (Uses)

(production of aqueous styrene-butadiene polymer dispersions by radical emulsion polymerization)

IT 25085-39-6P, Acrylic acid-butadiene-styrene copolymer

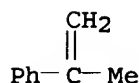
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(production of aqueous styrene-butadiene polymer dispersions by radical

emulsion polymerization)
IT 6144-04-3, α -Methylstyrene dimer
RL: RCT (Reactant); RACT (Reactant or reagent)
(chain-transfer agent; production of aqueous styrene-butadiene polymer
dispersions by radical emulsion polymerization)
RN 6144-04-3 HCAPLUS
CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)

CM 1

CRN 98-83-9
CMF C9 H10



RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L69 ANSWER 16 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:282626 HCAPLUS
DN 138:288118
TI Production of aqueous styrene-butadiene polymer dispersions by radical
emulsion polymerization
IN Gaschler, Wolfgang; Schaedler, Volker; Manders, Lambertus; Wirth, Thomas;
Kroener, Hubertus
PA Basf Aktiengesellschaft, Germany
SO PCT Int. Appl., 25 pp.
CODEN: PIXXD2
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003029315	A1	20030410	WO 2002-EP10968	20020930
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	DE 10148494	A1	20030417	DE 2001-10148494	20011001
	CA 2461947	AA	20030410	CA 2002-2461947	20020930
	EP 1434808	A1	20040707	EP 2002-800143	20020930
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
	BR 2002012868	A	20040914	BR 2002-12868	20020930
	JP 2005504154	T2	20050210	JP 2003-532556	20020930
	US 2004242767	A1	20041202	US 2004-491283	20040331
PRAI	DE 2001-10148494	A	20011001		
	WO 2002-EP10968	W	20020930		
AB	An aqueous styrene-butadiene polymer dispersion is produced by radical aqueous emulsion polymerization of a monomer mixture comprising 40-80% of				

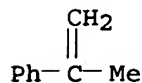
styrene, 20-60% of butadiene, and 0-40%, with regard to 100% of the monomers, of ethylenically unsatd. comonomers that differ from styrene and butadiene. The polymerization is carried out in the presence of 0.05-0.5%, with regard to 100% of the monomers, of at least one hydrocarbon selected from C6-C20-compds. that form a pentadienyl radical or a 1-phenylallyl radical when a hydrogen atom is abstracted, and α -methylstyrene dimer. The method is characterized in that at least 30% of the hydrocarbon is present in the reactor prior to polymerization, the rest of the hydrocarbon being fed during the polymerization reaction. The resulting aqueous styrene-butadiene polymer dispersions contain exceedingly small amts. of volatile components. Thus, acrylic acid-butadiene-styrene copolymer was produced by radical aqueous **emulsion polymerization** at 95° using polystyrene seeds (30 nm), sodium peroxodisulfate initiator, and p-1,4(8)-menthadiene chain-transfer agent.

IC ICM C08F212-08
ICS C08F236-06; C08F291-00
CC 35-4 (Chemistry of Synthetic High Polymers)
ST styrene butadiene radical **emulsion polymn** aq
dispersion prodn; terpene chain transfer agent styrene butadiene radical
emulsion polymn; methylstyrene dimer chain
transfer agent styrene butadiene radical polymn
IT Hydrocarbons, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(C6-20, unsatd., chain-transfer agents; production of aqueous styrene-butadiene
polymer dispersions by radical **emulsion polymerization**)
IT **Polymerization**
(**emulsion**, radical, aqueous; production of aqueous styrene-butadiene
polymer dispersions by radical **emulsion polymerization**)
IT **Polymerization catalysts**
(**emulsion**, radical; production of aqueous styrene-butadiene polymer
dispersions by radical **emulsion polymerization**)
IT Peroxides, uses
RL: CAT (Catalyst use); USES (Uses)
(polymerization catalysts; production of aqueous styrene-butadiene polymer
dispersions
by radical **emulsion polymerization**)
IT Chain transfer agents
(production of aqueous styrene-butadiene polymer dispersions by radical
emulsion polymerization)
IT 99-85-4, p-1,4-Menthadiene 586-62-9, p-1,4(8)-Menthadiene
6144-04-3, α -Methylstyrene dimer
RL: RCT (Reactant); RACT (Reactant or reagent)
(chain-transfer agent; production of aqueous styrene-butadiene polymer
dispersions by radical **emulsion polymerization**)
IT 7775-27-1, Sodium peroxodisulfate
RL: CAT (Catalyst use); USES (Uses)
(production of aqueous styrene-butadiene polymer dispersions by radical
emulsion polymerization)
IT 25085-39-6P, Acrylic acid-butadiene-styrene copolymer
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(production of aqueous styrene-butadiene polymer dispersions by radical
emulsion polymerization)
IT 6144-04-3, α -Methylstyrene dimer
RL: RCT (Reactant); RACT (Reactant or reagent)
(chain-transfer agent; production of aqueous styrene-butadiene polymer
dispersions by radical **emulsion polymerization**)
RN 6144-04-3 HCAPLUS
CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)

CM 1

CRN 98-83-9

CMF C9 H10



RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L69 ANSWER 17 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:282625 HCAPLUS

DN 138:288117

TI Production of aqueous styrene-butadiene polymer dispersions by radical
emulsion polymerization

IN Manders, Lambertus; Wirth, Thomas; Gaschler, Wolfgang; Kroener, Hubertus

PA Basf Aktiengesellschaft, Germany

SO PCT Int. Appl., 29 pp.

CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003029314	A1	20030410	WO 2002-EP10967	20020930
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	DE 10148496	A1	20030417	DE 2001-10148496	20011001
	CA 2461675	AA	20030410	CA 2002-2461675	20020930
	EP 1434807	A1	20040707	EP 2002-782802	20020930
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK			
	BR 2002012869	A	20040914	BR 2002-12869	20020930
	JP 2005504153	T2	20050210	JP 2003-532555	20020930
	US 2004209993	A1	20041021	US 2004-491336	20040401
PRAI	DE 2001-10148496	A	20011001		
	WO 2002-EP10967	W	20020930		

AB An aqueous styrene-butadiene polymer dispersion is produced by radical aqueous **emulsion polymerization** of a monomer mixture comprising 40-80% of styrene, 20-60% of butadiene, and 0-40%, with regard to 100% of the monomers, of ethylenically unsatd. comonomers that differ from styrene and butadiene. The polymerization is carried out in the presence of 0.05-0.5%, with regard to 100% of the monomers, of at least one hydrocarbon selected from C6-C20-compds. that form a pentadienyl radical or a 1-phenylallyl radical when a hydrogen atom is abstracted, and α -methylstyrene **dimer**. The method is characterized in that the concentration of butadiene in the monomer feed is increased by at least 10% in relation to the monomers in the feed, for a time period of at least 1% of the entire feed duration, when at least 70% of the monomers to be polymerized have been

fed into the polymerization reaction. The resulting aqueous styrene-butadiene polymer dispersions contain exceedingly small amts. of volatile components. Thus, acrylic acid-butadiene-styrene copolymer was produced by radical aqueous **emulsion polymerization** at 95° using polystyrene seeds (30 nm), sodium peroxodisulfate initiator, and p-1,4(8)-menthadiene chain-transfer agent.

IC ICM C08F212-08
ICS C08F236-10

CC 35-4 (Chemistry of Synthetic High Polymers)

ST styrene butadiene radical **emulsion polymn** aq dispersion prodn; terpene chain transfer agent styrene butadiene radical **emulsion polymn**; methylstyrene **dimer** chain transfer agent styrene butadiene radical **polymn**

IT Hydrocarbons, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(C6-20, unsatd., chain-transfer agents; production of aqueous styrene-butadiene polymer dispersions by radical **emulsion polymerization**)

IT **Polymerization**
(**emulsion**, radical, aqueous; production of aqueous styrene-butadiene polymer dispersions by radical **emulsion polymerization**)

IT **Polymerization catalysts**
(**emulsion**, radical; production of aqueous styrene-butadiene polymer dispersions by radical **emulsion polymerization**)

IT Peroxides, uses
RL: CAT (Catalyst use); USES (Uses)
(polymerization catalysts; production of aqueous styrene-butadiene polymer dispersions by radical **emulsion polymerization**)

IT Chain transfer agents
(production of aqueous styrene-butadiene polymer dispersions by radical **emulsion polymerization**)

IT 99-85-4, p-1,4-Menthadiene 586-62-9, p-1,4(8)-Menthadiene
6144-04-3, α-Methylstyrene dimer
RL: RCT (Reactant); RACT (Reactant or reagent)
(chain-transfer agent; production of aqueous styrene-butadiene polymer dispersions by radical **emulsion polymerization**)

IT 7775-27-1, Sodium peroxodisulfate
RL: CAT (Catalyst use); USES (Uses)
(production of aqueous styrene-butadiene polymer dispersions by radical **emulsion polymerization**)

IT 25085-39-6P, Acrylic acid-butadiene-styrene copolymer
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(production of aqueous styrene-butadiene polymer dispersions by radical **emulsion polymerization**)

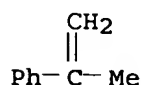
IT **6144-04-3, α-Methylstyrene dimer**
RL: RCT (Reactant); RACT (Reactant or reagent)
(chain-transfer agent; production of aqueous styrene-butadiene polymer dispersions by radical **emulsion polymerization**)

RN 6144-04-3 HCAPLUS

CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)

CM 1

CRN 98-83-9
CMF C9 H10



RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L69 ANSWER 18 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:282624 HCAPLUS

DN 138:288116

TI Production of aqueous styrene-butadiene polymer dispersions by radical
emulsion polymerization

IN Manders, Lambertus; Wirth, Thomas; Gaschler, Wolfgang; Kroener, Hubertus

PA Basf Aktiengesellschaft, Germany

SO PCT Int. Appl., 30 pp.

CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003029313	A1	20030410	WO 2002-EP10966	20020930
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	DE 10148497	A1	20030417	DE 2001-10148497	20011001
	CA 2461672	AA	20030410	CA 2002-2461672	20020930
	EP 1446431	A1	20040818	EP 2002-777269	20020930
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK			
	BR 2002012879	A	20041013	BR 2002-12879	20020930
	JP 2005504152	T2	20050210	JP 2003-532554	20020930
	US 2004249057	A1	20041209	US 2004-491271	20040331
PRAI	DE 2001-10148497	A	20011001		
	WO 2002-EP10966	W	20020930		

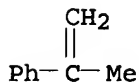
AB An aqueous styrene-butadiene polymer dispersion is produced by radical aqueous **emulsion polymerization** of a monomer mixture comprising 40-80% of styrene, 20-60% of butadiene, and 0-40%, with regard to 100% of the monomers, of ethylenically unsatd. comonomers that differ from styrene and butadiene. The polymerization is carried out in the presence of 0.05-0.5%, with regard to 100% of the monomers, of at least one hydrocarbon selected from C6-C20-compds. that form a pentadienyl radical or a 1-phenylallyl radical when a hydrogen atom is abstracted, and α -methylstyrene **dimer**. The method is characterized in that the monomers to be polymerized are introduced within three hours of the polymerization reaction. The resulting aqueous styrene-butadiene polymer dispersions contain exceedingly small amts. of volatile components. Thus, acrylic acid-butadiene-styrene copolymer was produced by radical aqueous **emulsion polymerization** at 95° using polystyrene seeds (30 nm), sodium peroxodisulfate initiator, and p-1,4(8)-menthadiene chain-transfer agent.

IC ICM C08F212-08

ICS C08F236-06
CC 35-4 (Chemistry of Synthetic High Polymers)
ST styrene butadiene radical **emulsion polymn** aq
dispersion prodn; terpene chain transfer agent styrene butadiene radical
emulsion polymn; methylstyrene **dimer** chain
transfer agent styrene butadiene radical polymn
IT Hydrocarbons, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(C6-20, unsatd., chain-transfer agents; production of aqueous styrene-butadiene
polymer dispersions by radical **emulsion polymerization**)
IT **Polymerization**
(**emulsion**, radical, aqueous; production of aqueous styrene-butadiene
polymer dispersions by radical **emulsion polymerization**)
IT **Polymerization catalysts**
(**emulsion**, radical; production of aqueous styrene-butadiene polymer
dispersions by radical **emulsion polymerization**)
IT Peroxides, uses
RL: CAT (Catalyst use); USES (Uses)
(polymerization catalysts; production of aqueous styrene-butadiene polymer
dispersions
by radical **emulsion polymerization**)
IT Chain transfer agents
(production of aqueous styrene-butadiene polymer dispersions by radical
emulsion polymerization)
IT 99-85-4, p-1,4-Menthadiene 586-62-9, p-1,4(8)-Menthadiene
6144-04-3, α -Methylstyrene **dimer**
RL: RCT (Reactant); RACT (Reactant or reagent)
(chain-transfer agent; production of aqueous styrene-butadiene polymer
dispersions by radical **emulsion polymerization**)
IT 7775-27-1, Sodium peroxodisulfate
RL: CAT (Catalyst use); USES (Uses)
(production of aqueous styrene-butadiene polymer dispersions by radical
emulsion polymerization)
IT 25085-39-6P, Acrylic acid-butadiene-styrene copolymer
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(production of aqueous styrene-butadiene polymer dispersions by radical
emulsion polymerization)
IT 6144-04-3, α -Methylstyrene **dimer**
RL: RCT (Reactant); RACT (Reactant or reagent)
(chain-transfer agent; production of aqueous styrene-butadiene polymer
dispersions by radical **emulsion polymerization**)
RN 6144-04-3 HCAPLUS
CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)

CM 1

CRN 98-83-9
CMF C9 H10



RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L69 ANSWER 19 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:867296 HCAPLUS

DN 137:372543

TI Binder containing **emulsion-polymerized** latex for anode
of secondary nickel-hydrogen battery

IN Naito, Hitoshi; Nishioka, Toshiyasu; Itagaki, Makoto

PA Nippon A and L Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002329496	A2	20021115	JP 2001-133102	20010427
PRAI	JP 2001-133102		20010427		

AB The title binder contains a copolymer latex obtained by **emulsion polymerization** of 100 parts monomer mixts. containing aliphatic conjugated diene monomers 20-60, ethylenic unsatd. carboxylic acid monomers 1-10, and copolymerizable monomers 30-79 weight% in the presence of 0.6-3.0 parts α -methylstyrene **dimer**, where the latex contains 400-3000 ppm residual α -methylstyrene **dimer** vs. solid components. The binder provides high adhesion of anode active mass to a current collector and electrolyte resistance and the battery shows long cycle life.

IC ICM H01M004-62

ICS C08F002-22

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

Section cross-reference(s): 38

ST binder **emulsion polymn** latex anode nickel hydrogen
battery

IT Battery anodes

Binders

(binder containing **emulsion-polymerized** acrylic
butadiene-styrene latex for nickel-hydrogen battery anode)IT **Polymerization**(emulsion; binder containing **emulsion-polymerized**
acrylic butadiene-styrene latex for nickel-hydrogen battery anode)

IT Chain transfer agents

(α -methylstyrene **dimer**; binder containing **emulsion**
-polymerized acrylic butadiene-styrene latex for nickel-hydrogen
battery anode)IT 97041-79-7P, Acrylamide-acrylic acid-acrylonitrile-butadiene-itaconic
acid-methyl methacrylate-styrene copolymer 475168-05-9P 475168-06-0P
RL: DEV (Device component use); PNU (Preparation, unclassified); PREP
(Preparation); USES (Uses)(binder containing **emulsion-polymerized** acrylic
butadiene-styrene latex for nickel-hydrogen battery anode)IT **6144-04-3, α -Methylstyrene dimer**

RL: MOA (Modifier or additive use); USES (Uses)

(chain-transfer agent; binder containing **emulsion-polymd**
. acrylic butadiene-styrene latex for nickel-hydrogen battery anode)IT **6144-04-3, α -Methylstyrene dimer**

RL: MOA (Modifier or additive use); USES (Uses)

(chain-transfer agent; binder containing **emulsion-polymd**
. acrylic butadiene-styrene latex for nickel-hydrogen battery anode)

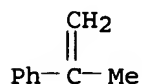
RN 6144-04-3 HCAPLUS

CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)

CM 1

CRN 98-83-9

CMF C9 H10



L69 ANSWER 20 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:827866 HCAPLUS

DN 137:339988

TI Binders for secondary battery anodes and compositions for secondary battery electrodes

IN Naito, Hitoshi; Nishioka, Toshiyasu; Itagaki, Makoto

PA Nippon A and L Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002319402	A2	20021031	JP 2001-122968	20010420
PRAI	JP 2001-122968		20010420		

AB The binder comprises a latex obtained by **emulsion polymn** . of 100 weight parts monomer mixts. of aliphatic conjugated diene monomers 20-60, ethylenically unsatd. carboxylic acid monomers 1-10, and comonomers 30-79 weight% under presence of 0.6-3.0 weight parts α -methylstyrene **dimer**. The residual α -methylstyrene **dimer** in the latex is 400-3000 ppm of the solid components. Compns. for battery electrodes comprising 100 weight parts carbonaceous conductive materials and 0.1-10 weight parts the said binders are also claimed. Batteries with excellent cycle characteristics are obtained.

IC ICM H01M004-62

ICS H01M004-02; H01M010-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

Section cross-reference(s): 35, 38

ST secondary battery anode latex binder; **emulsion polymn**

latex binder battery anode

IT Binders

(acrylic polymer latex; **emulsion polymerized acrylic latex binders for secondary battery anodes**)

IT Battery anodes

(emulsion polymerized acrylic latex binders for secondary battery anodes)

IT Chain transfer agents

(α -methylstyrene dimer; emulsion polymerized acrylic latex binders for secondary battery anodes).IT 6144-04-3, α -Methylstyrene **dimer**

RL: MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)

(chain-transfer agent; emulsion polymerized acrylic latex binders for secondary battery anodes)

IT 240496-52-0P 349581-71-1P 474087-61-1P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(latex, binder; emulsion polymerized acrylic latex binders for secondary battery anodes)IT 6144-04-3, α -Methylstyrene **dimer**

RL: MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)

(chain-transfer agent; **emulsion polymerized acrylic latex binders for secondary battery anodes**)

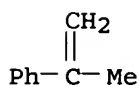
RN 6144-04-3 HCAPLUS

CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)

CM 1

CRN 98-83-9

CMF C9 H10



L69 ANSWER 21 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:705300 HCAPLUS

DN 138:171065

TI Process for producing odorless ABS resin and thermoplastic styrene resin compositions for inner walls of refrigerators

IN Jang, Tae Hwa

PA Cheil Industries Inc., S. Korea

SO Repub. Korean Kongkae Taeho Kongbo, No pp. given

CODEN: KRXXA7

DT Patent

LA Korean

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	KR 2001010156	A	20010205	KR 1999-28879	19990716
PRAI	KR 1999-28879		19990716		

AB The title resin compns., which can be used for inner sheets for refrigerators, have good impact resistance, fluidity, and chemical resistance. The odorless ABS resin is prepared by polymerizing 40-60 parts of butadiene rubber, 60-40 parts of a monomer mixture comprising styrene and acrylonitrile in a ratio of 80:20 to 50:50, 0.15-0.35 part of a persulfate **emulsion polymerization** initiator, 0.05-0.2 part of a mercaptan mol. weight controlling agent in the first stage and then polymerizing the monomers in the presence of 0.05-0.3 part of a hydroperoxide **emulsion polymerization** initiator, 0.01-0.2 part of a terpene-based mol. weight controlling agent, α -methylstyrene **dimer** or a mixture thereof in the second stage. The thermoplastic styrene resin compns. comprise the graft ABS resin 28-35, an acrylate resin 2-7, and styrene-acrylonitrile copolymer 60-70 parts.

IC ICM C08F002-22

CC 37-6 (Plastics Manufacture and Processing)

ST ABS resin blend refrigerator; acrylonitrile thermoplastic styrene compn inner; graft ABS resin butadiene rubber

IT Terpenes, reactions

Thiols, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(chain transfer agents; production of odorless ABS resin and thermoplastic styrene resin compns. for inner walls of refrigerators)

IT Chain transfer agents

Refrigerating apparatus

(production of odorless ABS resin and thermoplastic styrene resin compns.)

for inner walls of refrigerators)

IT Acrylic polymers, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(production of odorless ABS resin and thermoplastic styrene resin compns. for inner walls of refrigerators)

IT Polymer blends
RL: TEM (Technical or engineered material use); USES (Uses)
(production of odorless ABS resin and thermoplastic styrene resin compns. for inner walls of refrigerators)

IT 6144-04-3, α -Methylstyrene dimer
RL: RCT (Reactant); RACT (Reactant or reagent)
(chain transfer agents; production of odorless ABS resin and thermoplastic styrene resin compns. for inner walls of refrigerators)

IT 106677-58-1P, ABS resin
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(production of odorless ABS resin and thermoplastic styrene resin compns. for inner walls of refrigerators)

IT 9003-54-7, Styrene-acrylonitrile copolymer
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(production of odorless ABS resin and thermoplastic styrene resin compns. for inner walls of refrigerators)

IT 6144-04-3, α -Methylstyrene dimer
RL: RCT (Reactant); RACT (Reactant or reagent)
(chain transfer agents; production of odorless ABS resin and thermoplastic styrene resin compns. for inner walls of refrigerators)

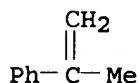
RN 6144-04-3 HCAPLUS

CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)

CM 1

CRN 98-83-9

CMF C9 H10



L69 ANSWER 22 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:675492 HCAPLUS

DN 137:338206

TI Radical Entry in **Emulsion Polymerization**: Estimation of the Critical Length of Entry Radicals via a Simple Lattice Model

AU Dong, Yan; Sundberg, Donald C.

CS Chemical Engineering Department, Polymer Research Group, University of New Hampshire, Durham, NH, 03824, USA

SO Macromolecules (2002), 35(21), 8185-8190
CODEN: MAMOBX; ISSN: 0024-9297

PB American Chemical Society

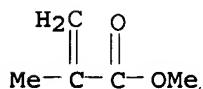
DT Journal

LA English

AB A lattice model has been utilized to calculate the free energy change upon oligomeric radical (derived from persulfate initiators) adsorption onto a latex particle dispersed in an aqueous phase. Variations in this free energy change with oligomer chain length allow one to predict the so-called Z-mer

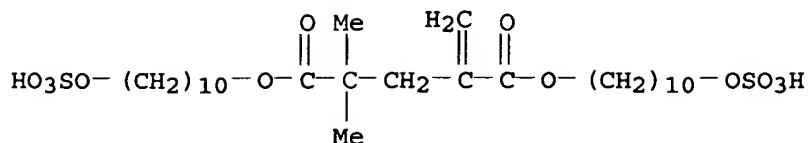
length at which adsorption is spontaneous. Z-mer lengths for commonly used homopolymers range from 1 to 8 (for 2-ethylhexyl acrylate and Me acrylate, resp.). The lengths predicted for styrene and Me methacrylate are 2 and 4 and are the same as those reported from expts. The model is straightforwardly extended to copolymers. Here the overall composition of the oligomeric copolymer radical has a significant effect upon the Z-mer length, while the sequence distribution of the monomer units in the chain has a limited effect. Model predictions for the acrylic acid-styrene system are in reasonable agreement with reported exptl. results over a range of comonomer comps.

CC 35-3 (Chemistry of Synthetic High Polymers)
 ST emulsion polymn entry radical length lattice model
 IT Polymerization
 (emulsion, radical; estimation of the critical length of entry radicals (Z-mer) in emulsion polymerization via a lattice model)
 IT Free energy of adsorption
 (estimation of the critical length of entry radicals (Z-mer) in emulsion polymerization via a lattice model)
 IT Polymer chains
 (length, Z-mer length; estimation of the critical length of entry radicals (Z-mer) in emulsion polymerization via a lattice model)
 IT Adsorption
 (spontaneous; estimation of the critical length of entry radicals (Z-mer) in emulsion polymerization via a lattice model)
 IT 80-62-6, Methyl methacrylate 96-33-3, Methyl acrylate 97-88-1, Butyl methacrylate 100-42-5, Styrene, reactions 103-11-7, 2-Ethylhexyl acrylate 106-99-0, Butadiene, reactions 107-13-1, Acrylonitrile, reactions 108-05-4, Vinyl acetate, reactions 140-88-5, Ethyl acrylate 141-32-2, Butyl acrylate
 RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
 (estimation of the critical length of entry radicals (Z-mer) in emulsion polymerization via a lattice model)
 IT 25247-68-1, Styrene dimer 28213-80-1, Styrene trimer 28261-32-7, Methyl methacrylate dimer 97555-82-3, Methyl methacrylate trimer 112484-49-8, Methyl methacrylate tetramer 122327-60-0, Methyl methacrylate pentamer
 RL: PRP (Properties)
 (radical; estimation of the critical length of entry radicals (Z-mer) in emulsion polymerization via a lattice model)
 IT 28261-32-7, Methyl methacrylate dimer
 RL: PRP (Properties)
 (radical; estimation of the critical length of entry radicals (Z-mer) in emulsion polymerization via a lattice model)
 RN 28261-32-7 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, methyl ester, dimer (9CI) (CA INDEX NAME)
 CM 1
 CRN 80-62-6
 CMF C5 H8 O2



RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L69 ANSWER 23 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:556639 HCAPLUS
DN 135:273292
TI **Emulsion polymerization** of methyl methacrylate in the
presence of novel addition-fragmentation chain-transfer reactive
surfactant (transurf)
AU Monteiro, Michael J.; Bussels, Raf; Wilkinson, Terence S.
CS Laboratory of Polymer Chemistry (SPC), Faculty of Chemistry and Chemical
Engineering, Eindhoven University of Technology, Eindhoven, 5600 MB, Neth.
SO Journal of Polymer Science, Part A: Polymer Chemistry (2001), 39(16),
2813-2820
CODEN: JPACEC; ISSN: 0887-624X
PB John Wiley & Sons, Inc.
DT Journal
LA English
AB Reactive surfactants allow the surfactant mols. to become covalently bound
to the particles and thus provide added stability to the colloid
particles, longer shelf life, better shear resistance, and polymer
particles that can be redispersed. This article reports for the first
time the use of a novel addition-fragmentation chain-transfer reactive
surfactant (transurf) in ab initio emulsion polymns. of Me methacrylate at
70°. The rate was lowered and average particle diameter nearly doubled
when the transurf was used as compared with the SDS expts. (control). In
addition the mol. weight distribution was very broad but had a lower Mn than
observed in the sodium dodecyl sulfate experiment Unfortunately because of the
formation of many water-soluble oligomers, the amount of transurf incorporated
could not be obtained accurately. However, it was estimated theor. that only
a very small amount of transurf would be consumed, but for an alternative
method to increase the incorporation of transurf into the particles, the
ratio of monomer to transurf must be kept as low as possible. The best
way to achieve this would be to carry the expts. out under starved-feed
conditions.
CC 35-4 (Chemistry of Synthetic High Polymers)
ST methyl methacrylate **emulsion polymn** chain transfer
surfactant
IT Chain transfer agents
(**emulsion polymerization** of Me methacrylate in the
presence of addition-fragmentation chain-transfer reactive surfactant)
IT **Polymerization**
(**emulsion; emulsion polymerization** of Me
methacrylate in the presence of addition-fragmentation chain-transfer
reactive surfactant)
IT 349140-89-2
RL: MOA (Modifier or additive use); USES (Uses)
(chain-transfer agent; **emulsion polymerization** of Me
methacrylate in the presence of addition-fragmentation chain-transfer
reactive surfactant)
IT 9011-14-7P, PMMA
RL: SPN (Synthetic preparation); PREP (Preparation)
(**emulsion polymerization** of Me methacrylate in the
presence of addition-fragmentation chain-transfer reactive surfactant)
IT 349140-89-2
RL: MOA (Modifier or additive use); USES (Uses)
(chain-transfer agent; **emulsion polymerization** of Me
methacrylate in the presence of addition-fragmentation chain-transfer
reactive surfactant)
RN 349140-89-2 HCAPLUS
CN Pentanedioic acid, 2,2-dimethyl-4-methylene-, bis[10-(sulfooxy)decyl]
ester, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L69 ANSWER 24 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:313897 HCAPLUS

DN 135:92879

TI Synthesis and Characterization of a Novel Addition-Fragmentation Reactive Surfactant (TRANSURF) for Use in Free-Radical Emulsion Polymerizations

AU Wilkinson, Terence S.; Boonstra, Armin; Montoya-Goni, Amaia; van Es, Steven; Monteiro, Michael J.; German, Anton L.

CS Laboratory of Polymer Chemistry, Faculty of Chemistry and Chemical Engineering, Eindhoven University of Technology, Eindhoven, 5600MB, Neth.

SO Journal of Colloid and Interface Science (2001), 237(1), 21-27

CODEN: JCISA5; ISSN: 0021-9797

PB Academic Press

DT Journal

LA English

AB A chain transfer surfactant (transurf) was prepared, which is based on chemical of macromers that undergo free radical chain transfer addition-fragmentation reactions. In the first step, a Me methacrylate (MMA) dimer was obtained in the presence of CoBF complex; the dimer was hydrolyzed and esterified with 1,10-decanediol, then the ester was allowed to react with chlorosulfonic acid to produce the Me methacrylate dimer surfactant, 2,4-bis(sodium 10-sulfate decanoxycarbonyl)-4-methylpent-1-ene. This allows incorporation of the surfactant mol. into the polymer backbone, and thus reduces effects of surfactant migration during film formation. Surfactants of this type, containing two hydrophilic head groups, can have a marked influence on the polymer and latex properties (e.g., mol. weight distribution and particle size). The surface tension, conductivity, and fluorescence of the transurf were measured. Because of the unusual bolaform (α , ω) of the surfactant structure (R. Zana, in Structure-Performance Relationships in Surfactants; K. Esumi and M. Ueno, Eds.; Surfactant Science Series 70, 1997) the micelle formation process was quite different from that of sodium dodecyl sulfate (SDS). From surface tension data, a flat mol. conformation was evident at $1 + 10^{-3}$ mol dm⁻³ (131 Å² surface area), which corresponds to the low aggregation number of premicellar aggregates. There is evidence to suggest formation of a larger volume of the microdomains in these micelles compared to that in SDS. At higher transurf concns., however, there was no clear indication of a switch to a wicket-type conformation, although such conformational changes cannot be ruled out. (c) 2001 Academic Press.

CC 35-2 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 46

ST reactive surfactant chain transfer agent prepn; methyl methacrylate

dimer decanoyl sulfonate transurf prepn

IT Chain transfer agents

Conformation
Esterification
Fluorescence
Hydrophobicity
Micelles
Micellization
Self-association
Sulfonation
Surface area
Surface tension

(preparation and surface properties of sodium decanoxycarbonyl methylpentene sulfonate addition-fragmentation chain transfer surfactant (transurf) for use in free-radical emulsion polymns.)

IT 26220-72-4, Bis(boron difluorodimethylglyoximate)cobaltate(II)

RL: CAT (Catalyst use); USES (Uses)

(dimerization catalyst; preparation and surface properties of sodium decanoxycarbonyl methylpentene sulfonate addition-fragmentation chain transfer surfactant (transurf) for use in free-radical emulsion polymns.)

IT 129-00-0, Pyrene, uses

RL: NUU (Other use, unclassified); USES (Uses)

(fluorescent probe; preparation and surface properties of sodium decanoxycarbonyl methylpentene sulfonate addition-fragmentation chain transfer surfactant (transurf) for use in free-radical emulsion polymns.)

IT 10297-25-3P 71674-93-6P, [2,4-Bis(methoxycarbonyl)-4-methylpent-1-ene]

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(intermediate; preparation and surface properties of sodium decanoxycarbonyl methylpentene sulfonate addition-fragmentation chain transfer surfactant (transurf) for use in free-radical emulsion polymns.)

IT 80-62-6, Methyl methacrylate 112-47-0, 1,10-Decanediol 497-19-8, Sodium carbonate, reactions 7790-94-5, Chlorosulfonic acid

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation and surface properties of sodium decanoxycarbonyl methylpentene sulfonate addition-fragmentation chain transfer surfactant (transurf) for use in free-radical emulsion polymns.)

IT 349140-88-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and surface properties of sodium decanoxycarbonyl methylpentene sulfonate addition-fragmentation chain transfer surfactant (transurf) for use in free-radical emulsion polymns.)

IT 349140-89-2P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(transurf; preparation and surface properties of sodium decanoxycarbonyl methylpentene sulfonate addition-fragmentation chain transfer surfactant (transurf) for use in free-radical emulsion polymns.)

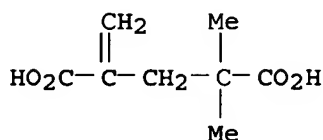
IT 10297-25-3P 71674-93-6P, [2,4-Bis(methoxycarbonyl)-4-methylpent-1-ene]

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(intermediate; preparation and surface properties of sodium decanoxycarbonyl methylpentene sulfonate addition-fragmentation chain transfer surfactant (transurf) for use in free-radical emulsion polymns.)

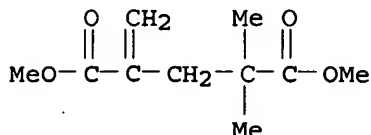
RN 10297-25-3 HCAPLUS

CN Pentanedioic acid, 2,2-dimethyl-4-methylene- (9CI) (CA INDEX NAME)



RN 71674-93-6 HCAPLUS

CN Pentanedioic acid, 2,2-dimethyl-4-methylene-, dimethyl ester (9CI) (CA INDEX NAME)



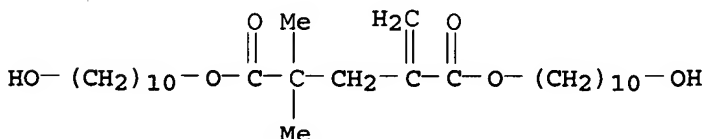
IT 349140-88-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and surface properties of sodium decanoxycarbonyl methylpentene sulfonate addition-fragmentation chain transfer surfactant (transurf) for use in free-radical emulsion polymns.)

RN 349140-88-1 HCAPLUS

CN Pentanedioic acid, 2,2-dimethyl-4-methylene-, bis(10-hydroxydecyl) ester (9CI) (CA INDEX NAME)



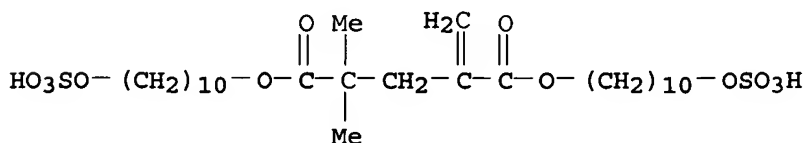
IT 349140-89-2P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(transurf; preparation and surface properties of sodium decanoxycarbonyl methylpentene sulfonate addition-fragmentation chain transfer surfactant (transurf) for use in free-radical emulsion polymns.)

RN 349140-89-2 HCAPLUS

CN Pentanedioic acid, 2,2-dimethyl-4-methylene-, bis[10-(sulfooxy)decyl] ester, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L69 ANSWER 25 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1999:723079 HCAPLUS

DN 131:337539

TI Graft copolymer, its preparation and use for preparing pressure-sensitive adhesive compositions

IN Charmot, Dominique; Dorget, Michel; Oger, Nicole; Schoonbrood, Harold

PA Rhodia Chimie, Fr.

SO PCT Int. Appl., 33 pp.

CODEN: PIXXD2

DT Patent

LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9957167	A1	19991111	WO 1999-FR984	19990426
	W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	FR 2778185	A1	19991105	FR 1998-5557	19980430
	AU 9934277	A1	19991123	AU 1999-34277	19990426
PRAI	FR 1998-5557	A	19980430		
	WO 1999-FR984	W	19990426		

AB The graft copolymer comprises a skeleton consisting of a polymer with $T_g \leq 10^\circ$ on which are branches arising from macromonomers with $T_g \leq 10^\circ$, such that the polymer constituting the skeleton and the macromonomers constituting the branches each include a carbonyl function not involved in the skeleton-macromonomer junction. Thus, a macromonomer was prepared by solution polymerization of 2-ethylhexyl methacrylate 130 and α -methylstyrene dimer 13 in toluene 130 g using tert-BuOOBz as initiator. A pressure-sensitive adhesive emulsion (pH 5.3, 39% solids) was prepared by aqueous **emulsion polymerization** of Bu acrylate 271.1, acrylic acid 12.6, and the macromonomer 31.5 g using (NH₄)₂S₂O₈ as initiator. The graft copolymer adhesive showed a higher adhesive strength to glass and to polyethylene than a nongraft copolymer of the same monomers of the same weight composition

IC ICM C08F265-04

ICS C08F265-06; C08F290-00; C08F290-04; C08F279-02; C08F257-02; C08L051-00; C09J151-00

CC 35-4 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 38

ST acrylic graft copolymer adhesive

IT Adhesives

(emulsion, pressure-sensitive; graft copolymers for preparing pressure-sensitive adhesive compns.)

IT 6144-04-3, α -Methylstyrene dimer

RL: RCT (Reactant); RACT (Reactant or reagent)

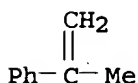
(chain-transfer agent; in preparation of graft polyacrylate adhesive emulsions)

IT 250212-23-8P, Acrylic acid-butyl acrylate-2-ethylhexyl methacrylate graft copolymer

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(graft copolymers for preparing pressure-sensitive adhesive compns.)

IT 6144-04-3, α -Methylstyrene dimer
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (chain-transfer agent; in preparation of graft polyacrylate adhesive emulsions)
 RN 6144-04-3 HCAPLUS
 CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)
 CM 1
 CRN 98-83-9
 CMF C9 H10

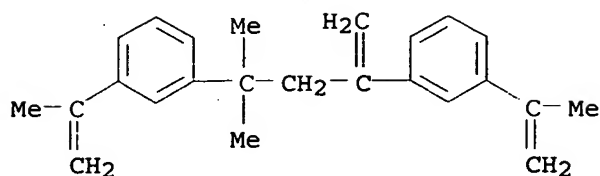


RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L69 ANSWER 26 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1999:529115 HCAPLUS
 DN 131:144963
 TI Process and cobalt coordination complex catalysts for the preparation of dimers from α -methylstyrenes
 IN Gridnev, Alexei Alexeyevich
 PA E. I. Du Pont de Nemours & Co., USA
 SO PCT Int. Appl., 31 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9941218	A1	19990819	WO 1999-US2768	19990210
W: AU, BR, CA, IL, JP, KR, MX, NZ				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 6294708	B1	20010925	US 1999-245521	19990205
CA 2319741	AA	19990819	CA 1999-2319741	19990210
AU 9926656	A1	19990830	AU 1999-26656	19990210
AU 755938	B2	20030102		
EP 1054852	A1	20001129	EP 1999-906836	19990210
R: BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE				
BR 9907771	A	20010904	BR 1999-7771	19990210
JP 2002503645	T2	20020205	JP 2000-531417	19990210
NZ 505989	A	20030228	NZ 1999-505989	19990210
TW 550247	B	20030901	TW 1999-88102153	19990403
US 2001025128	A1	20010927	US 2001-851549	20010509
US 6388153	B2	20020514		
PRAI US 1998-74322P	P	19980211		
US 1999-245521	A3	19990205		
WO 1999-US2768	W	19990210		
OS MARPAT 131:144963				
AB	<u>Alpha-methylstyrene dimers</u> (e.g. the dimer of α -methylstyrene), useful as <u>chain-transfer agents</u> (no data), are prepared by combining a cobalt coordination catalyst [e.g., [bis[m-(2,3-butanedione dioximato)(2-)O,O'tetraflorodiborato(2-)N,N',N'',N'''] (2-propyl)Co(III)]], a free-radical initiator (e.g., AIBN), and an α -methylstyrene			

- monomer (α -methylstyrene) in an inert atmospheric to form a mixt which is is heated to 65-140° to form the α -methylstyrene dimers.
- IC ICM C07C002-04
ICS C07C015-50; C07C263-16; C07C265-08; C07C211-50; C07B037-02;
C08F212-32; C09D125-08
- CC 35-2 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 25, 67, 78
- ST methylstyrene dimer manuf; cobalt coordination compd dimerization catalyst
manuf methylstyrene
- IT Dimerization catalysts
(cobalt coordination complexes and free-radical initiators for the
preparation of dimers from α -methylstyrenes)
- IT Coating materials
(containing polymers of dimers of α -methylstyrenes)
- IT Chain transfer agents
(dimers from α -methylstyrenes)
- IT Dimers
RL: IMF (Industrial manufacture); PREP (Preparation)
(dimers from α -methylstyrenes; process and cobalt coordination
complex catalysts for the preparation of dimers from α -methylstyrenes)
- IT Polyolefins
RL: IMF (Industrial manufacture); PREP (Preparation)
(of dimers from α -methylstyrenes)
- IT Polymerization catalysts
(radical; catalysts for the preparation of dimers from α -
methylstyrenes)
- IT 78-67-1, AIBN 2094-98-6, VAZO 88 2638-94-0, 4,4'-Azobis(4-cyanovaleric
acid) 5676-79-9, Azocumene 7440-48-4D, Cobalt, coordination compds.,
uses 13472-08-7, 2,2'-Azobis(2-methylbutanenitrile) 25149-46-6,
2-(tert-Butylazo)-2-cyanopropane
RL: CAT (Catalyst use); USES (Uses)
(process and cobalt coordination complex catalysts for the preparation of
dimers from α -methylstyrenes)
- IT 6144-04-3P, α -Methylstyrene dimer 235428-39-4P
RL: IMF (Industrial manufacture); PREP (Preparation)
(process and cobalt coordination complex catalysts for the preparation of
dimers from α -methylstyrenes)
- IT 6362-80-7DP, polymers 6362-80-7P 235428-40-7P
235428-41-8P
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP
(Preparation)
(process and cobalt coordination complex catalysts for the preparation of
dimers from α -methylstyrenes)
- IT 98-83-9, α -Methylstyrene, reactions 2094-99-7 3748-13-8
52562-19-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(process and cobalt coordination complex catalysts for the preparation of
dimers from α -methylstyrenes)
- IT 235428-39-4P
RL: IMF (Industrial manufacture); PREP (Preparation)
(process and cobalt coordination complex catalysts for the preparation of
dimers from α -methylstyrenes)
- RN 235428-39-4 HCAPLUS
- CN Benzene, 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bis[3-(1-
methylethenyl)]- (9CI) (CA INDEX NAME)



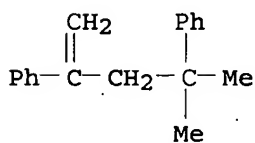
IT 6362-80-7DP, polymers 6362-80-7P 235428-40-7P
235428-41-8P

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP
(Preparation)

(process and cobalt coordination complex catalysts for the preparation of
dimers from α -methylstyrenes)

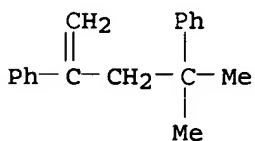
RN 6362-80-7 HCAPLUS

CN Benzene, 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bis- (9CI) (CA
INDEX NAME)



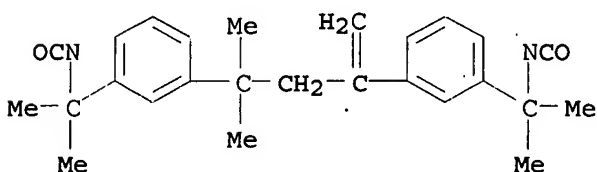
RN 6362-80-7 HCAPLUS

CN Benzene, 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bis- (9CI) (CA
INDEX NAME)



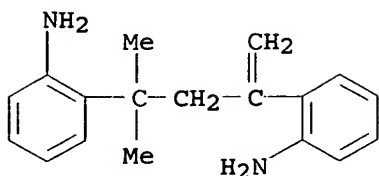
RN 235428-40-7 HCAPLUS

CN Benzene, 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bis[3-(1-
isocyanato-1-methylethyl)- (9CI) (CA INDEX NAME)



RN 235428-41-8 HCAPLUS

CN Benzenamine, 2,2'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bis- (9CI)
(CA INDEX NAME)



RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L69 ANSWER 27 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1998:430794 HCAPLUS

DN 129:150295

TI Diene polymer latexes with good pick strength, blister resistance, and coatability and their compositions for paper coating

IN Nakagawa, Tsutomu; Naoi, Kunio

PA Asahi Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10182709	A2	19980707	JP 1996-350696	19961227
	JP 3242855	B2	20011225		
PRAI	JP 1996-350696		19961227		

AB Title latexes are obtained by 2-stage **emulsion polymerization** of 100 parts monomers comprising (A) conjugated dienes 20-70, (B) aromatic vinyl monomers 0.5-78, (C) ethylenically unsatd. carboxylic acids 0.5-10, (D) methacrylonitrile (I) 1-20, and (E) other vinyl monomers 0.1-50 parts. First, 80-99 parts monomers containing a whole of A and C are polymerized in the presence of α -methylstyrene **dimer** (II) until 60-90% monomer conversion and then residual monomers containing >50% I are added at I addition rate 0.0025-0.25 part/min. Thus, styrene 27.5, butadiene 32, Me methacrylate 15, acrylonitrile 14, and 2-hydroxyethyl acrylate 1 part were added to a reactor containing 1 part fumaric acid and 1.5 parts itaconic acid in the presence of 1.4 parts II at 75° over 5 h and then 8 parts I was added to the mixture at 0.133 part/min to give a latex. A coating containing the latex was applied to printing paper to show good dry and wet pick strength and blister resistance.

IC ICM C08F002-38

ICS C08F002-22; C08F279-02; C08L051-04; D21H019-56

CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)

Section cross-reference(s): 37, 42

ST diene polymer latex paper coating; methacrylonitrile diene copolymer latex paper coating; pick strength diene polymer latex; blister resistance diene polymer latex; multistage **emulsion polymn** diene latex manuf; methylstyrene **dimer** chain transfer agent

IT Paper

(diene polymer latexes with good pick strength, blister resistance, and coatability for paper coating)

IT **Polymerization**

(**emulsion**, multistage; diene polymer latexes with good pick strength, blister resistance, and coatability for paper coating)

IT Coating materials

(latex; diene polymer latexes with good pick strength, blister resistance, and coatability for paper coating)

IT Chain transfer agents
(α -methylstyrene dimer; diene polymer latexes with good pick strength, blister resistance, and coatability for paper coating)

IT 6144-04-3, α -Methylstyrene dimer
RL: RCT (Reactant); RACT (Reactant or reagent)
(chain-transfer agent; diene polymer latexes with good pick strength, blister resistance, and coatability for paper coating)

IT 114293-21-9P 210987-02-3P
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(diene polymer latexes with good pick strength, blister resistance, and coatability for paper coating)

IT 6144-04-3, α -Methylstyrene dimer
RL: RCT (Reactant); RACT (Reactant or reagent)
(chain-transfer agent; diene polymer latexes with good pick strength, blister resistance, and coatability for paper coating)

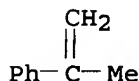
RN 6144-04-3 HCAPLUS

CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)

CM 1

CRN 98-83-9

CMF C9 H10



L69 ANSWER 28 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1998:348180 HCAPLUS

DN 129:41458

TI α,ω -Dicarboxyl telechelic poly(methyl methacrylate) via radical addition-fragmentation polymerization

AU Haddleton, David M.; Topping, Clare; Kukulj, Dax; Irvine, Derek

CS Department of Chemistry, University of Warwick, Coventry, CV4 7AL, UK

SO Polymer (1998), 39(14), 3119-3128
CODEN: POLMAG; ISSN: 0032-3861

PB Elsevier Science Ltd.

DT Journal

LA English

AB Catalytic chain transfer polymerization of benzyl methacrylate leads to a mixture of poly(benzyl methacrylate) macromonomers. Benzyl methacrylate dimer macromonomer has been isolated as a pure compound and used as a radical addition fragmentation chain transfer agent. This results in poly(Me methacrylate) with both α and ω terminal benzyl methacrylate units. Catalytic hydrogenation of α,ω -benzyl methacrylate terminal poly(Me methacrylate) results in evolution of toluene and formation of α,ω -dicarboxyl functional telechelic poly(Me methacrylate). The products have been fully characterized by matrix-assisted laser desorption time-of-flight mass spectrometry in conjunction with ^1H and ^{13}C NMR spectroscopy.

CC 35-4 (Chemistry of Synthetic High Polymers)

ST dicarboxy telechelic polymethyl methacrylate; telomerization methyl methacrylate; benzyl methacrylate dimer telogen

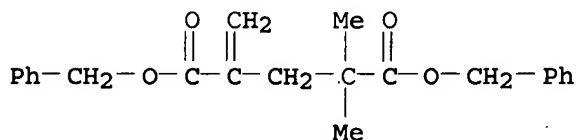
IT Chain transfer agents
(benzyl methacrylate dimer; preparation of α,ω -dicarboxy telechelic poly(Me methacrylate) via radical addition-fragmentation

- polymerization using benzyl methacrylate dimer as **chain-transfer agent**)
- IT Telomers (polymers)
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of α,ω -dicarboxy telechelic poly(Me methacrylate)
via radical addition-fragmentation polymerization using benzyl methacrylate dimer
as **chain-transfer agent**)
- IT Telomerization
(radical; preparation of α,ω -dicarboxy telechelic poly(Me
methacrylate) via radical addition-fragmentation polymerization using benzyl
methacrylate dimer as **chain-transfer agent**)
- IT 61551-69-7, 2,2'-Azobis[2-methyl-N-(2-hydroxyethyl)propionamide]
RL: CAT (Catalyst use); USES (Uses)
(catalyst; in preparation of α,ω -dicarboxy telechelic poly(Me
methacrylate) via radical addition-fragmentation polymerization using benzyl
methacrylate dimer as **chain-transfer agent**)
- IT 208192-25-0DP, debenzylated 208192-25-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of α,ω -dicarboxy telechelic poly(Me methacrylate)
via radical addition-fragmentation polymerization using benzyl methacrylate
dimer as **chain-transfer agent**)
- IT 208192-24-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(telogen; for preparation of α,ω -dicarboxy telechelic poly(Me
methacrylate) via radical addition-fragmentation polymerization using benzyl
methacrylate dimer as **chain-transfer agent**)
- IT 208192-25-0DP, debenzylated 208192-25-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of α,ω -dicarboxy telechelic poly(Me methacrylate)
via radical addition-fragmentation polymerization using benzyl methacrylate
dimer as **chain-transfer agent**)
- RN 208192-25-0 HCAPLUS
- CN Pentanedioic acid, 2,2-dimethyl-4-methylene-, bis(phenylmethyl) ester,
polymer with methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 208192-24-9

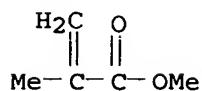
CMF C22 H24 O4



CM 2

CRN 80-62-6

CMF C5 H8 O2



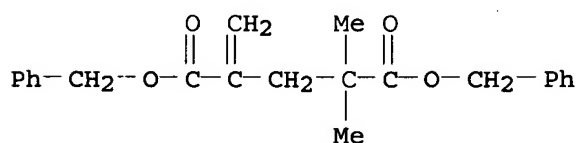
RN 208192-25-0 HCAPLUS

CN Pentanedioic acid, 2,2-dimethyl-4-methylene-, bis(phenylmethyl) ester, polymer with methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 208192-24-9

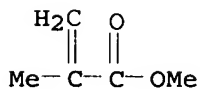
CMF C22 H24 O4



CM 2

CRN 80-62-6

CMF C5 H8 O2



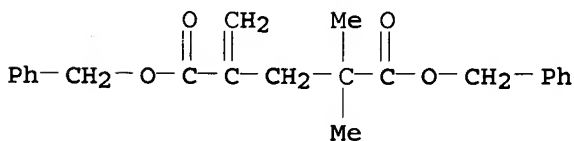
IT 208192-24-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(telogen; for preparation of α,ω -dicarboxy telechelic poly(Me methacrylate) via radical addition-fragmentation polymerization using benzyl methacrylate dimer as chain-transfer agent)

RN 208192-24-9 HCAPLUS

CN Pentanedioic acid, 2,2-dimethyl-4-methylene-, bis(phenylmethyl) ester (9CI) (CA INDEX NAME)

RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L69 ANSWER 29 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1998:65933 HCAPLUS

DN 128:115390

TI Polymerization with living characteristics with controlled dispersity,
 polymers prepared thereby, and chain-transfer agents used in the same
 IN Le, Tam Phuong; Moad, Graeme; Rizzardo, Ezio; Thang, San Hoa
 PA E. I. Du Pont de Nemours & Co., USA; Le, Tam Phuong; Moad, Graeme;
 Rizzardo, Ezio; Thang, San Hoa
 SO PCT Int. Appl., 88 pp.
 CODEN: PIXXD2

DT Patent
 LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9801478	A1	19980115	WO 1997-US12540	19970703
	W: AU, BR, CA, CN, IL, JP, KR, MX, NZ, US				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	CA 2259559	AA	19980115	CA 1997-2259559	19970703
	CA 2259559	C	20041109		
	AU 9736033	A1	19980202	AU 1997-36033	19970703
	AU 728717	B2	20010118		
	EP 910587	A1	19990428	EP 1997-932627	19970703
	EP 910587	B1	20011212		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	BR 9710219	A	19990810	BR 1997-10219	19970703
	CN 1228787	A	19990915	CN 1997-197601	19970703
	NZ 333277	A	20000929	NZ 1997-333277	19970703
	JP 2000515181	T2	20001114	JP 1998-505398	19970703
	JP 3639859	B2	20050420		
	AT 210684	E	20011215	AT 1997-932627	19970703
	ES 2166092	T3	20020401	ES 1997-932627	19970703
	CN 1500813	A	20040602	CN 2003-10116155	19970703
	TW 384292	B	20000311	TW 1997-86109745	19970801
	KR 2000023688	A	20000425	KR 1999-700145	19990109
	US 2004171777	A1	20040902	US 2004-784425	20040223
PRAI	AU 1996-933	A	19960710		
	AU 1996-1109	A	19960718		
	WO 1997-US12540	W	19970703		
	US 2001-762833	A3	20010130		

AB This invention concerns a free radical polymerization process, selected chain transfer agents employed in the process and polymers made thereby, in which the process comprises preparing polymers (ZCS2Qq)pR (I) or Z'(CS2QqR)m (II), comprising contacting: (i) a monomer having repeating units Q, selected from vinyl monomers of structure CH2:CUV, maleic anhydride, N-alkylmaleimide, N-arylmaleimide, dialkyl fumarate and cyclopolymerizable monomers; (ii) a thiocarbonylthio compound selected from (ZCS2)pR (III) and Z'(CS2R)m (IV) having a chain transfer constant ≥ 0.1 ; and (iii) free radicals produced from a free radical source; and controlling the polydispersity of the polymer being formed by varying the ratio of the number of mols of (ii) to the number of mols of (iii); I being made by contacting (i), (ii), III and (iii) and II by contacting (i), (ii), IV, and (iii). Z = H, Cl, (un)substituted alkyl, aryl, heterocyclyl, alkylthio, alkoxy carbonyl, CO2R", CO2H, O2CR", CONR"2, cyano, P(O)OR"2, P(O)R"2, polymer chain formed by any mechanism; Z' = m-valent moiety derived from a member of the group consisting of (un)substituted alkyl, aryl, or polymer chain, where the connecting moieties are selected from aliphatic or aromatic carbon and S; Q is selected from -C(U)(V)CH2- and repeating units from maleic anhydride, N-alkylmaleimide, N-arylmaleimide, dialkyl fumarate, and cyclopolymerizable monomers; U = H, halogen, (un)substituted C1-4 alkyl, with substituents selected from OH, alkoxy, OR", carboxy, acyloxy, O2CR", CO2R"; V = R", CO2H, CO2R", COR", CN, CONH2, CONHR", CONR"2, O2CR", OR",

halogen. R = (un)substituted alkyl, (un)saturated alkylthio, alkoxy, dialkylamino, organometallic, polymer chain; in III and IV, R' = a free radical leaving group that initiates free radical polymerization; R'' = (un)substituted C1-18 alkyl, C2-18 alkenyl, aryl, heterocyclyl, aralkyl, alkaryl; p, q ≥ 1; m ≥ 2; R' = p-valent moiety selected from (un)substituted alkyl, aryl, polymer chain. Polymerizing 4 mL of a stock solution from 15 mL Me methacrylate, 20 mg AIBN, and 60.7 mg 2-phenyl-2-Pr dithiobenzoate in 5 mL benzene, in a degassed and sealed ampule at 60° for 2 (16) h gave Mn 9800 (56,200), Mw/Mn 1.27 (1.12), and % conversion 13.5 (95.0)%.

- IC ICM C08F002-38
ICS C07C327-36
- CC 35-4 (Chemistry of Synthetic High Polymers)
- ST dithiocarboxylate chain transfer agent; methacrylate polymn chain transfer agent
- IT Polymerization
(block; polymerization with living characteristics with controlled dispersity, polymers prepared thereby, and chain-transfer agents used in same)
- IT Polymerization
(bulk; polymerization with living characteristics with controlled dispersity, polymers prepared thereby, and chain-transfer agents used in same)
- IT Polymerization
(emulsion; polymerization with living characteristics with controlled dispersity, polymers prepared thereby, and chain-transfer agents used in same)
- IT Polymerization
(living; polymerization with living characteristics with controlled dispersity, polymers prepared thereby, and chain-transfer agents used in same)
- IT Chain transfer agents
(polymerization with living characteristics with controlled dispersity, polymers prepared thereby, and chain-transfer agents used in same)
- IT Polymerization
(solution; polymerization with living characteristics with controlled dispersity, polymers prepared thereby, and chain-transfer agents used in same)
- IT Polymerization
(suspension; polymerization with living characteristics with controlled dispersity, polymers prepared thereby, and chain-transfer agents used in same)
- IT Polymerization
(thermal; polymerization with living characteristics with controlled dispersity, polymers prepared thereby, and chain-transfer agents used in same)
- IT 9003-01-4P 9003-21-8P, Poly(methyl acrylate) 9003-49-0P, Poly(butyl acrylate) 9003-53-6P, Polystyrene 9003-54-7P, Acrylonitrile-styrene copolymer 9003-55-8P, Butadiene-styrene copolymer 9011-14-7P, PMMA 24991-31-9P, Poly(vinyl butyrate) 24991-32-0P, Poly(vinyl benzoate 25034-86-0P, Methyl methacrylate-styrene copolymer 25086-15-1P, Methacrylic acid-methyl methacrylate copolymer 26793-34-0P, Poly(N,N-dimethylacrylamide) 28038-50-8P, Poly(p-styrenesulfonic acid sodium salt) 69215-54-9P, Hydroxyethyl methacrylate-isobutyl methacrylate-methyl methacrylate-styrene copolymer 106911-77-7P, Methyl methacrylate-styrene block copolymer 107311-90-0P, Ethylene oxide-styrene block copolymer 107391-68-4P, Butyl methacrylate-styrene block copolymer 107741-20-8P, Methyl methacrylate-styrene graft copolymer 110453-53-7P, N,N-Dimethylacrylamide-styrene block copolymer 110772-34-4P, Butyl acrylate-styrene block copolymer 119182-44-4P, 2-Hydroxyethyl methacrylate-methyl methacrylate block copolymer 121523-76-0P, 4-Methylstyrene-styrene block copolymer 121917-48-4P, Acrylic acid-butyl acrylate block copolymer 201611-95-2P, Ethyl

acrylate-methyl acrylate block copolymer 201611-96-3P

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(polymerization with living characteristics with controlled dispersity,
polymers prepared thereby, and chain-transfer agents used in same)

IT 3682-49-3P, 1-Naphthalenecarbodithioic acid 5925-55-3P, tert-Butyl
dithiobenzoate 13291-44-6P, S-tert-Butyl thiobenzoate 32894-08-9P,
Benzyl dithioacetate 37912-25-7P 114393-77-0P 201611-77-0P
201611-80-5P 201611-81-6P 201611-83-8P 201611-85-0P 201611-86-1P
201611-87-2P 201611-88-3P 201611-89-4P 201611-90-7P 201611-91-8P
201611-92-9P 201611-93-0P 201611-94-1P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
(Reactant or reagent)

(polymerization with living characteristics with controlled dispersity,
polymers prepared thereby, and chain-transfer agents used in same)

IT 75-15-0, Carbon disulfide, reactions 75-66-1, tert-Butyl mercaptan
86-52-2, 1-(Chloromethyl)naphthalene 98-83-9, reactions 98-88-4,
Benzoyl chloride 100-39-0, Benzyl bromide 100-42-5, reactions
100-58-3, Phenylmagnesium bromide 105-36-2, Ethyl bromoacetate
108-05-4, Acetic acid ethenyl ester, reactions 108-86-1, Bromobenzene,
reactions 121-68-6, Dithiobenzoic acid 540-84-1, 2,4,4-
Trimethylpentane 600-00-0, Ethyl α -bromoisobutyrate 623-24-5,
 α,α' -Dibromo-p-xylene 637-69-4 676-58-4, Methylmagnesium
chloride 942-91-6, Carboxymethyl dithiobenzoate 1592-20-7,
4-(Chloromethyl)styrene 1605-18-1, 1,4-Diisopropenylbenzene 1712-70-5,
4-Chloro- α -methylstyrene 2168-82-3, 4-Chlorodithiobenzoic acid
3095-73-6, Hexakis(bromomethyl)benzene 7704-34-9, Sulfur, reactions
9004-74-4 15442-91-8, 1,2,4,5-Tetrakis(bromomethyl)benzene 26504-29-0,
Dibenzyl trithiocarbonate 27249-90-7, Benzyl dithiobenzoate
39833-65-3, 3-(Chloromethyl)styrene 41658-69-9, 2-Bromo-2-cyanopropane
49672-29-9, 1,4-Benzenedicarbodithioic acid 59937-89-2 119529-40-7,
Dibenzyl tetrathioterephthalate 178878-93-8 201611-78-1 201611-79-2
201611-82-7 201611-84-9

RL: RCT (Reactant); RACT (Reactant or reagent)

(polymerization with living characteristics with controlled dispersity,
polymers prepared thereby, and chain-transfer agents used in same)

IT 201611-96-3P

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(polymerization with living characteristics with controlled dispersity,
polymers prepared thereby, and chain-transfer agents used in same)

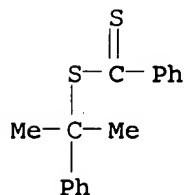
RN 201611-96-3 HCAPLUS

CN 1,6-Heptadiene-2,4,4,6-tetracarboxylic acid, tetraethyl ester, polymer
with 1-methyl-1-phenylethyl benzenecarbodithioate (9CI) (CA INDEX NAME)

CM 1

CRN 201611-77-0

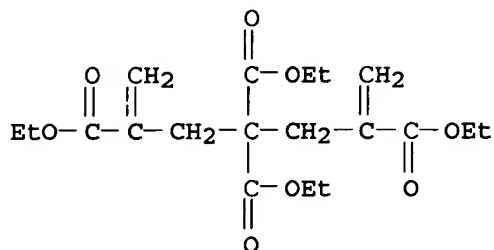
CMF C16 H16 S2



CM 2

CRN 168627-35-8

CMF C19 H28 O8



RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L69 ANSWER 30 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1997:666523 HCAPLUS

DN 127:320051

TI The structure and properties of core-shell type acrylic-polyurethane hybrid aqueous emulsions

AU Hirose, M.; Kadowaki, F.; Zhou, Jianhui

CS Technical department, Taisei Chemical Ind. Ltd., 3-5-1 Nishi-shinkoiwa, Katsushika-Ku, Tokyo, 124, Japan

SO Progress in Organic Coatings (1997), 31(1-2), 157-169
CODEN: POGCAT; ISSN: 0300-9440

PB Elsevier

DT Journal

LA English

AB Three types of core-shell type acrylic-polyurethane hybrid aqueous emulsions were prepared by soap-free emulsion polymerization techniques. The formation of core-shell morphol. was clearly observed by transmission electron microscopy in the case of A/U-type emulsions whose core and shell regions are occupied by acrylic polymer and polyurethane, resp. The size and the distribution of emulsion particles are found to vary drastically depending on the chemical composition of core and shell parts and core-shell ratio. The surface properties of the dried clear films formed from A/U-type hybrid emulsions were studied by FT-IR, ESCA and contact angle measurements. The results of these three methods support the idea that the surface layer of dried clear films is rich in polyurethane component. A/U-type emulsion and A/U-A-type emulsions whose shell part is formed by polyurethane-acrylic graft copolymer showed similarly excellent adhesion properties onto various plastic films for food packaging uses. Functional groups which are expected to react with each other after the evaporation of water are introduced into core and shell regions (in the case of U/A-type emulsions) or core region and aqueous phase (in the case of A/U-g-A-emulsion). The effect of the crosslinking reaction between and within particles was observed by thermomech. anal. The reaction of these functional groups was studied by FT-IR measurements using a water-soluble model polymer containing ketone groups and a low mol. crosslinking agent containing hydrazide groups. In the course of the dry film formation from aqueous emulsions, the formation of imino bonds between ketone groups and hydrazide groups was observed

CC 42-7 (Coatings, Inks, and Related Products)
Section cross-reference(s): 36, 37

ST acrylic polyurethane emulsion water borne coating; core shell emulsion acrylic polyurethane coating; structure property acrylic polyurethane emulsion; crosslinking acrylic polyurethane emulsion coating

- IT Coating materials
Polymerization
(emulsion; preparation, structure and properties of core-shell type acrylic-polyurethane hybrid aqueous emulsions)
- IT Chain transfer agents
(for preparation of core-shell type acrylic-polyurethane hybrid aqueous emulsions)
- IT Adhesion, physical
(influence of duration time on adhesion of core-shell type acrylic-polyurethane hybrid aqueous emulsions to polymer films)
- IT Polyamides, properties
RL: PRP (Properties)
(influence of duration time on adhesion of core-shell type acrylic-polyurethane hybrid aqueous emulsions to polymer films)
- IT Crosslinking
(model reaction for study of room temperature crosslinking reaction between and with core-shell type acrylic-polyurethane hybrid aqueous emulsion particles)
- IT Polyesters, properties
RL: PRP (Properties)
(oriented; influence of duration time on adhesion of core-shell type acrylic-polyurethane hybrid aqueous emulsions to polymer films)
- IT Polyurethanes, uses
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyester-, acrylic; preparation, structure and properties of core-shell type acrylic-polyurethane hybrid aqueous emulsions)
- IT Bond energy
Contact angle
Mechanical loss
Particle size
Polymer morphology
(preparation, structure and properties of core-shell type acrylic-polyurethane hybrid aqueous emulsions)
- IT Coating materials
(water-thinned; preparation, structure and properties of core-shell type acrylic-polyurethane hybrid aqueous emulsions)
- IT 60-24-2, 2-Mercaptoethanol
RL: NUU (Other use, unclassified); USES (Uses)
(chain transfer agent for preparation of core-shell type acrylic-polyurethane hybrid aqueous emulsions)
- IT 75-11-6, Methylene iodide 107-21-1, 1,2-Ethanediol, properties 7732-18-5, Water, properties
RL: PRP (Properties)
(contact angle of various liqs. on dried films from core-shell type acrylic-polyurethane hybrid aqueous emulsions)
- IT 78-93-3, Methyl ethyl ketone, processes 1071-93-8
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(model reaction for study of room temperature crosslinking reaction between and with core-shell type acrylic-polyurethane hybrid aqueous emulsion particles)
- IT 174755-94-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(model reaction for study of room temperature crosslinking reaction between and with core-shell type acrylic-polyurethane hybrid aqueous emulsion particles)
- IT 9002-85-1, Poly(vinylidene chloride)
RL: PRP (Properties)
(oriented polypropylene coated with; influence of duration time on

adhesion of core-shell type acrylic-polyurethane hybrid aqueous emulsions to polymer films)

IT 9003-07-0, Polypropylene
RL: PRP (Properties)
(oriented, poly(vinylidene chloride)-coated; influence of duration time on adhesion of core-shell type acrylic-polyurethane hybrid aqueous emulsions to polymer films)

IT 25038-59-9, Poly(ethylene terephthalate), properties
RL: PRP (Properties)
(oriented; influence of duration time on adhesion of core-shell type acrylic-polyurethane hybrid aqueous emulsions to polymer films)

IT 79-10-7DP, 2-Propenoic acid, acrylic-polyurethane graft copolymer, uses 100-42-5DP, acrylic-polyurethane graft copolymer 107-15-3DP, 1,2-Ethanediamine, acrylic-polyurethane graft copolymer, uses 123-31-9DP, 1,4-Benzenediol, acrylic-polyurethane graft copolymer, uses 140-88-5DP, acrylic-polyurethane graft copolymer 141-32-2DP, acrylic-polyurethane graft copolymer 868-77-9DP, acrylic-polyurethane graft copolymer 1071-93-8DP, acrylic-polyurethane graft copolymer 2873-97-4DP, Diacetone acrylamide, acrylic-polyurethane graft copolymer 4098-71-9DP, Isophorone diisocyanate, acrylic-polyurethane graft copolymer 4767-03-7DP, acrylic-polyurethane graft copolymer 6144-04-3DP, α -Methylstyrene dimer, acrylic-polyurethane graft copolymer 24980-41-4DP, Polycaprolactone, diol derivs., acrylic-polyurethane graft copolymer 25248-42-4DP, Polycaprolactone, sru, diol derivs., acrylic-polyurethane graft copolymer
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation, structure and properties of core-shell type acrylic-polyurethane hybrid aqueous emulsions)

IT 6144-04-3DP, α -Methylstyrene dimer, acrylic-polyurethane graft copolymer
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation, structure and properties of core-shell type acrylic-polyurethane hybrid aqueous emulsions)

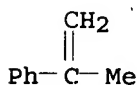
RN 6144-04-3 HCAPLUS

CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)

CM 1

CRN 98-83-9

CMF C9 H10



RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L69 ANSWER 31 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1997:609741 HCAPLUS
DN 127:227433
TI Electrophotographic toner, its manufacture, and developer
IN Kikuchi, Tomoe; Hirose, Hisahiro; Nishimori, Yoshiki; Hayashi, Kenji; Kamiyama, Mikio
PA Konica Co., Japan; Konica Minolta Holdings, Inc.
SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09230628	A2	19970905	JP 1996-33585	19960221
	JP 3582033	B2	20041027		
PRAI	JP 1996-33585		19960221		

AB The title toner contains a mixture of a tert-alkylmercaptan, a α -methylstyrene dimer or an alkylmercaptan having different C number ≤ 100 ppm in weight ratio. The toner is manufactured by polymerizing monomers in the presence of a mixture of a tert-alkylmercaptan, a α -methylstyrene dimer or an alkylmercaptan having different C number. Chain-transfer constant of these compds. may be controlled. A developer consisting of the toner and a carrier is also claimed. The toner shows improved fixability and has no smell. Thus, styrene, Bu acrylate, methacrylic acid, and tert-dodecylmercaptan were added to a mixt of an aqueous dispersion of Al coupling agent-treated carbon black and an emulsion of polypropylene and polymerized, the resulting dispersion of colored particles was reacted in the presence of KCl, iso-PrOH, and polyoxyethylene octyl Ph ether, and the obtained particles were washed with MeOH to remove the mercaptan compound, dried, and mixed with SiO₂ to give a toner.

IC ICM G03G009-087

ICS G03G009-08

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

ST chain transfer agent toner polymn electrophotog; mercaptan compd chain transfer agent toner; methylstyrene dimer chain transfer agent toner

IT Chain transfer agents

Electrophotographic toners

(manufacture of electrophotog. toner by polymerization using mercaptan compound or methylstyrene dimer as chain-transfer agent)

IT 111-88-6, Octylmercaptan 143-10-2, Decylmercaptan 6144-04-3,

 α -Methylstyrene dimer 25103-58-6, tert-Dodecylmercaptan

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(manufacture of electrophotog. toner by polymerization using mercaptan compound or methylstyrene dimer as chain-transfer agent)

IT 6144-04-3, α -Methylstyrene dimer

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(manufacture of electrophotog. toner by polymerization using mercaptan compound or methylstyrene dimer as chain-transfer agent)

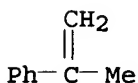
RN 6144-04-3 HCAPLUS

CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)

CM 1

CRN 98-83-9

CMF C9 H10



L69 ANSWER 32 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1997:483036 HCAPLUS

DN 127:136823

TI ABS-based latexes and their application for adhesives in paper coatings

IN Hayano, Saburo; Kitahara, Mitsuo; Kamata, Kazunori

PA Mitsui Toatsu Chemicals, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09176247	A2	19970708	JP 1995-333527	19951221
PRAI	JP 1995-333527		19951221		

AB The latexes, useful for coatings on paper with excellent stability in rapid application, comprise aliphatic conjugated diolefin monomers 30-60, cyanated vinyl monomers 20-50, and comonomers 0-50 parts emulsion -polymerized in the presence of 1-10 parts (vs. 100 parts above monomers) C4-12-dialkyl phthalate. Title application of the latexes as adhesives in the paper coatings is also claimed. Thus, 40 parts butadiene was copolymd. with styrene 30, acrylonitrile 25, itaconic acid 1, acrylic acid 2, hydroxyethyl methacrylate 2 parts at 70° in the presence of 3.0 parts di-Bu phthalate and 1.0 parts α -methylstyrene dimer until polymerization degree 90%, neutralized with a NaOH aqueous solution, steam-stripped, and diluted with H₂O to give a 50.0%-solid latex solution, 10 parts of which was blended with Kaolin Clay 1 70, CaCO₃ 30, poly(Na acrylate) 0.2, NaOH 0.1, and oxidized starch 4 parts to give a 62%-solid coating showing viscosity at 8800 rpm 30.5 cP, filtered ppts. (dried weight, as 50%-solid coating) 9 ppm. Then, the coating was applied on paper at application rate 1000 m/min, dried, aged at 20° and at relative humidity 65%, and super-calendared to give coated paper showing excellent offset resistance.

IC ICM C08F236-04

ICS C08F002-44; C08F222-30; D21H019-56

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 42, 43

ST paper coating adhesive latex application stability; alkyl phthalate plasticizer latex paper coating; ABS latex offset resistant paper coating; methylstyrene chain transfer agent latex

IT Adhesives

Coating materials

Paper

(ABS-based latexes for adhesives in paper coatings with excellent stability at rapid application)

IT 193089-74-6P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(ABS-based latexes for adhesives in paper coatings with excellent stability at rapid application)

IT 6144-04-3, α -Methyl styrene dimer

RL: NUU (Other use, unclassified); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(chain-transfer agent; ABS-based latexes for adhesives in paper coatings with excellent stability at rapid application)

IT 84-74-2, Dibutyl phthalate

RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(plasticizer; ABS-based latexes for adhesives in paper coatings with excellent stability at rapid application)

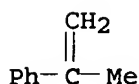
IT 6144-04-3, α -Methyl styrene dimer
 RL: NUU (Other use, unclassified); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (chain-transfer agent; ABS-based latexes for adhesives in paper coatings with excellent stability at rapid application)

RN 6144-04-3 HCAPLUS

CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)

CM 1

CRN 98-83-9
 CMF C9 H10



L69 ANSWER 33 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1997:324130 HCAPLUS

DN 126:299655

TI Silver halide photographic material with polymer latex undercoat layer

IN Nishikawa, Sumio; Suematsu, Koichi

PA Fuji Photo Film Co Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09061967	A2	19970307	JP 1995-214528	19950823
PRAI	JP 1995-214528		19950823		

AB The title material contains, on a polyester film support, an undercoat layer made of a polymer latex prepared by **emulsion-polymerizing** a monomer mixture of diolefin monomers 10-60, vinyl monomers 90-40, and ≥ 1 monomer having ≥ 2 vinyl, (meth)acryloyl or allyl groups in its mol. 0.01-10 parts in the presence of 0.3-10 parts (based on the 100 parts monomer mixture) a polymerization chain transfer agent comprising α -methylstyrene dimer 2-100 and other agent 98-0 weight % in an aqueous medium. The undercoat layer may contain a dichloro-sym.-triazine derivative in addition to the latex. The material shows good antiblocking properties and the emulsion and backcoat layers exhibit good adhesion to the support. Thus, a photog. film was prepared by using a PET film support coated with a composition containing a polymer latex prepared by **emulsion-polymerizing** butadiene, styrene, divinylbenzene, acrylic acid, and hydroxyethyl acrylate in the presence of α -methylstyrene dimer and tert-dodecylmercaptan and 2,4-dichloro-6-hydroxy-s-triazine Na salt to form an undercoat layer.

IC ICM G03C001-93

ICS C08J007-04; G03C001-795

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 35

ST undercoat layer polymer latex photog film; methylstyrene dimer chain transfer agent polymn; **emulsion polymn** photog

film undercoat layer

IT **Polymerization**
(emulsion; photog. films with polymer latex undercoat layer prepared by emulsion polymerization)

IT Chain transfer agents
Photographic films
(photog. films with polymer latex undercoat layer prepared by emulsion polymerization)

IT **6144-04-3, α -Methylstyrene dimer**
RL: CAT (Catalyst use); USES (Uses)
(chain-transfer agent; photog. films with polymer latex undercoat layer prepared by emulsion polymerization)

IT 189156-31-8P, Acrylic acid-butadiene-2,4-dichloro-6-hydroxy-s-triazine sodium salt-divinylbenzene-2-hydroxyethyl acrylate-styrene copolymer
189156-32-9P, Butadiene-2,4-dichloro-6-hydroxy-s-triazine sodium salt-divinylbenzene-2-hydroxyethyl acrylate-methyl acrylate-styrene copolymer
189156-33-0P, Butadiene-2,4-dichloro-6-hydroxy-s-triazine sodium salt-divinylbenzene-2-hydroxyethyl acrylate-itaconic acid-styrene copolymer
RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
(photog. films with polymer latex undercoat layer prepared by emulsion polymerization)

IT **6144-04-3, α -Methylstyrene dimer**
RL: CAT (Catalyst use); USES (Uses)
(chain-transfer agent; photog. films with polymer latex undercoat layer prepared by emulsion polymerization)

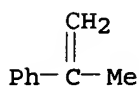
RN 6144-04-3 HCAPLUS

CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)

CM 1

CRN 98-83-9

CMF C9 H10



L69 ANSWER 34 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1997:233617 HCAPLUS

DN 126:212560

TI Manufacture of copolymer latexes using redox initiators

IN Shimizu, Atsushi; Kobayashi, Hiromi; Shiratori, Naoyuki

PA Asahi Chemical Ind, Japan

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09025308	A2	19970128	JP 1995-176330	19950712
	JP 3398525	B2	20030421		
PRAI	JP 1995-176330		19950712		

AB The latexes are manufactured from conjugated dienes and other copolymerizable monomers by emulsion polymerization in the presence of (A)

emulsion polymerized latex seed particles (glass temperature $\leq 75^\circ$) from OH-containing ethylenic alkyl monocarboxylates 0.5-10, ethylenically unsatd. mono- or dicarboxylates 0.5-10, and other copolymerizable monomers 80-99 parts, (B) redox initiators from persulfate salts and reductants, and (C) polymerization inhibitors. The latex is useful for paper-coating materials. Thus, styrene 32, butadiene 30, Me methacrylate 17, acrylonitrile 15, 2-hydroxyethyl acrylate 3, tert-dodecylmercaptan 0.5, and α -methylstyrene dimer 0.5 parts were emulsion polymerized at 40° for 7 h in the presence of seed latexes (obtained from styrene, Me methacrylate, ethylhexyl acrylate, and itaconic acid), $\text{Na}_2\text{S}_2\text{O}_8$, NaOH, and Rongalit to give a latex, which was steam-stripped, mixed with clay, CaCO_3 , starch, NH_3 , and H_2O to obtain a coating. The coating was applied on a piece of paper to give a test piece showing surface strength 3.26, blister-formation temperature 205° , and good antisticking property.

IC ICM C08F002-40

ICS C08F002-22; C08L009-10

CC 35-4 (Chemistry of Synthetic High Polymers).

Section cross-reference(s): 42, 43

ST diene copolymer latex emulsion polymn; seed polymer emulsion polymn latex; paper coating latex emulsion polymn; redox initiator emulsion polymn latex

IT Polymerization

(emulsion, seed; manufacture of copolymer latexes using redox initiators)

IT Coating materials

Paper

(manufacture of copolymer latexes for paper coatings using redox initiators)

IT Polymerization catalysts

(redox; manufacture of copolymer latexes using redox initiators)

IT 25103-58-6, tert-Dodecylmercaptan

RL: NUU (Other use, unclassified); USES (Uses)

(chain-transfer agent; manufacture of copolymer latexes for paper coatings using redox initiators)

IT 149038-55-1P 188065-46-5P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(latex; manufacture of copolymer latexes for paper coatings using redox initiators)

IT 6144-04-3, α -Methylstyrene dimer

RL: NUU (Other use, unclassified); USES (Uses)

(polymerization inhibitor; manufacture of copolymer latexes for paper coatings using redox initiators)

IT 7775-27-1, Sodium persulfate

RL: CAT (Catalyst use); USES (Uses)

(polymerization initiator; manufacture of copolymer latexes for paper coatings using redox initiators)

IT 149-44-0, Rongalit

RL: CAT (Catalyst use); USES (Uses)

(reductant; manufacture of copolymer latexes for paper coatings using redox initiators)

IT 27233-82-5P 188065-45-4P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(seed; manufacture of copolymer latexes for paper coatings using redox initiators)

IT 6144-04-3, α -Methylstyrene dimer

RL: NUU (Other use, unclassified); USES (Uses)

(polymerization inhibitor; manufacture of copolymer latexes for paper coatings

using redox initiators)

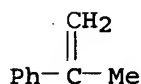
RN 6144-04-3 HCAPLUS

CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)

CM 1

CRN 98-83-9

CMF C9 H10



L69 ANSWER 35 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1996:739975 HCAPLUS

DN 126:31891

TI Manufacture of rubber-reinforced graft copolymers with improved impact resistance and fluidity

IN Nakai, Yoshihiro; Ii, Yasuaki

PA Mitsubishi Rayon Co, Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08259639	A2	19961008	JP 1995-87757	19950322
	JP 3015707	B2	20000306		
PRAI	JP 1995-87757		19950322		

AB The graft copolymers are manufactured by polymerizing (A) 90-20 parts monomer mixts. comprising vinyl cyanides 10-40, aromatic vinyls 60-90, and copolymerizable vinyl monomers 0-20% (total 100%) in the presence of (B) 5-80 parts elastomeric polymers with gel content $\geq 60\%$ and weight-average particle diameter 0.15-0.40 μm obtained by **emulsion polymerization** of (a) 30-100 parts aliphatic conjugated dienes and (b) 0-70 parts copolymerizable vinyl monomers (total 100 parts) followed by adding ≥ 1 compds. selected from mercaptans, α -methylstyrene **dimer**, and terpinolene at polymerization convert ratio 10-90% and completing the polymerization. Thus, mixing 60 parts 1290:210 Bu acrylate-methacrylic acid copolymer and 2540 parts (1000 parts as polymer) 1,3-butadiene homopolymer rubber latex prepared in the presence of octylmercaptan gave an elastomer latex, 2550 parts (1000 parts as polymer) of which was fed to a reactor containing H_2O , dextrose, Na pyrophosphate and $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$. A mix. of acrylonitrile (I) 300, styrene (II) 700, tert-dodecylmercaptan 12.0, and cumene hydroperoxide (III) 3.0 parts was added dropwise to the reactor, then 1.2 parts III and 10 parts Antage W 400 were added successively. Pellets comprising 63 parts the obtained graft copolymer white powder and 63 parts 30:70 I-II copolymer was injection-molded to give test pieces with Izod impact strength 48 kg-cm/cm, MFR 2.2 g/10 min, and gloss 96%.

IC ICM C08F279-02

CC 35-8 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 39

ST aliph conjugated diene rubber graft copolymer; butadiene rubber acrylonitrile styrene graft copolymer; impact resistance butadiene rubber graft copolymer

IT Impact-resistant materials
(manufacture of rubber-reinforced graft copolymers with improved impact resistance and fluidity)

IT Plastics, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)
(manufacture of rubber-reinforced graft copolymers with improved impact resistance and fluidity)

IT 111-88-6, Octylmercaptan 112-55-0, Dodecylmercaptan 586-62-9, Terpinolene 6144-04-3, α -Methylstyrene dimer
RL: NUU (Other use, unclassified); USES (Uses)
(chain-transfer agents; manufacture of rubber-reinforced graft copolymers with improved impact resistance and fluidity)

IT 134367-36-5P, Acrylonitrile-butyl acrylate-methacrylic acid-styrene graft copolymer
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)
(manufacture of rubber-reinforced graft copolymers with improved impact resistance and fluidity)

IT 9003-54-7, Acrylonitrile-styrene copolymer
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(manufacture of rubber-reinforced graft copolymers with improved impact resistance and fluidity)

IT 6144-04-3, α -Methylstyrene dimer
RL: NUU (Other use, unclassified); USES (Uses)
(chain-transfer agents; manufacture of rubber-reinforced graft copolymers with improved impact resistance and fluidity)

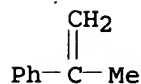
RN 6144-04-3 HCAPLUS

CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)

CM 1

CRN 98-83-9

CMF C9 H10



L69 ANSWER 36 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1996:563068 HCAPLUS

DN 125:248631

TI α,ω -dihydroxy telechelic poly(methyl methacrylate) via β -scission (radical addition-fragmentation) chain transfer polymerization by macromonomer chain transfer agents, as prepared by catalytic chain transfer polymerization

AU Haddleton, David M.; Topping, Clare; Hastings, Jeremy J.; Suddaby, Kevin G.

CS Department Chemistry, University Warwick, Coventry, CV4 7AL, UK

SO Macromolecular Chemistry and Physics (1996), 197(9), 3027-3042
CODEN: MCHPES; ISSN: 1022-1352

PB Huethig & Wepf

DT Journal

LA English

AB α,ω -Dihydroxy telechelic poly(Me methacrylate) was prepared by β -scission (radical addition-fragmentation) chain

transfer polymerization Hydroxyethyl methacrylate dimer macromonomer prepared from catalytic chain transfer polymerization and isolated as a pure compound is an efficient chain transfer agent. The mode of chain transfer is via β -scission which results in the dimer breaking in half on addition to a propagating poly(Me methacrylate) radical terminating the polymerization and providing a hydroxyethyl methacrylate radical which reinitiates polymerization. A combination of these 2 events leads to dihydroxy telechelic products, demonstrated to have a functionality of 2.05 by a combination of NMR and size exclusion chromatog. The chain transfer coeffs.

of these methacrylic macromonomers is dependant of concentration, exhibiting a type of bootstrap effect. This ultimately leads to a limiting low mol. weight telechelic product by the use of dimeric β -scission chain transfer agents. A combination of high field NMR and matrix-assisted laser desorption time-of-flight mass spectrometry was utilized to demonstrate the structure of the products. The combination of catalytic chain transfer polymerization and β -scission chain transfer was demonstrated to be a powerful tool in the controlled polymerization of methacrylates by radical methodol.

CC 35-4 (Chemistry of Synthetic High Polymers)

ST methacrylate dimer telogen methyl methacrylate telomerization;
hydroxyethyl methacrylate dimer methyl methacrylate telomerization

IT Chain-transfer agents

Telomerization

(methacrylate dimers use as chain transfer agents
in telomerization of Me methacrylate)

IT Telomers

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(methacrylate dimers use as chain transfer agents
in telomerization of Me methacrylate)

IT 71674-93-6P 100639-42-7P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(methacrylate dimers use as chain transfer
agents in telomerization of Me methacrylate)

IT 182362-86-3P 182363-21-9P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(methacrylate dimers use as chain transfer
agents in telomerization of Me methacrylate)

IT 868-77-9, 2-Hydroxyethyl methacrylate

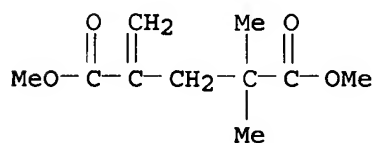
RL: RCT (Reactant); RACT (Reactant or reagent)
(methacrylate dimers use as chain transfer agents
in telomerization of Me methacrylate)

IT 71674-93-6P 100639-42-7P

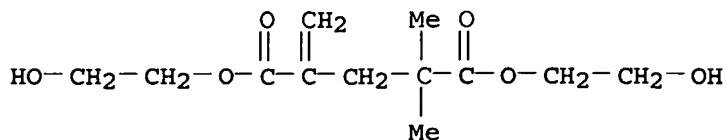
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(methacrylate dimers use as chain transfer
agents in telomerization of Me methacrylate)

RN 71674-93-6 HCAPLUS

CN Pentanedioic acid, 2,2-dimethyl-4-methylene-, dimethyl ester (9CI) (CA
INDEX NAME)



RN 100639-42-7 HCAPLUS

CN Pentanedioic acid, 2,2-dimethyl-4-methylene-, bis(2-hydroxyethyl) ester
(9CI) (CA INDEX NAME)

IT 182362-86-3P 182363-21-9P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(methacrylate dimers use as chain transfer
agents in telomerization of Me methacrylate)

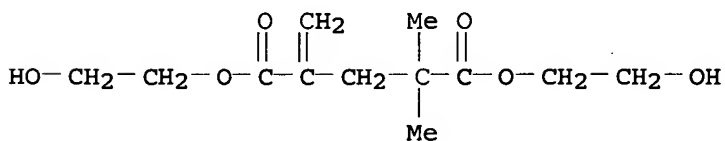
RN 182362-86-3 HCAPLUS

CN Pentanedioic acid, 2,2-dimethyl-4-methylene-, bis(2-hydroxyethyl) ester,
telomer with methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 100639-42-7

CMF C12 H20 O6



CM 2

CRN 9011-14-7

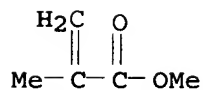
CMF (C5 H8 O2)x

CCI PMS

CM 3

CRN 80-62-6

CMF C5 H8 O2



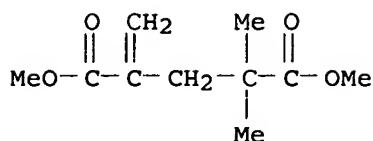
RN 182363-21-9 HCAPLUS

CN Pentanedioic acid, 2,2-dimethyl-4-methylene-, dimethyl ester, telomer with
methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 71674-93-6

CMF C10 H16 O4

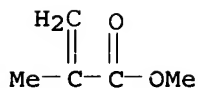


CM 2

CRN 9011-14-7
 CMF (C5 H8 O2)x
 CCI PMS

CM 3

CRN 80-62-6
 CMF C5 H8 O2



L69 ANSWER 37 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1996:500805 HCAPLUS

DN 125:116914

TI Preparation of poly(vinyl acetate)-based emulsions with less residual monomer content and low odor, and adhesive compositions using them

IN Hayazaki, Tatsuo; Okinaga, Nobuyuki; Nakajima, Junichiro

PA Sekisui Chemical Co. Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08127605	A2	19960521	JP 1994-268745	19941101
PRAI	JP 1994-268745		19941101		

AB Title emulsions are prepared by emulsion polymn

. of vinyl acetate (I) or I-copolymerizable monomer mixts. in the presence of protective colloids and polymerization catalysts. and mixing with ≥1 compds. chosen from azo catalysts, anionic or nonionic

emulsifiers, styrene dimer, polypropylene glycol

methacrylate, and maleic anhydride after addition of the polymerization catalysts. Thus, I 93, H2O2 0.4, and tartaric acid (II) 0.4 part were

added dropwise to a mixture containing H2O 137, PVA-CST [poly(vinyl alc.)] 11, I 7, H2O2 0.1, and II 0.1 part at 70° for 3-3.5 h, then mixed with

0.3 part V 50 (azo catalyst), and treated at 90° to give an

emulsion with less residual monomer content.

IC ICM C08F002-22

ICS C08F002-24; C08F002-44; C08F018-08; C09J131-04

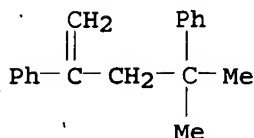
CC 38-3 (Plastics Fabrication and Uses)

ST polyvinyl acetate emulsion prepn adhesive; protective colloid

polyvinyl acetate emulsion; polymn catalyst polyvinyl

acetate emulsion; residual monomer reducer emulsion

- prepn
- IT Emulsifying agents
(anionic or nonionic, residual monomer reducers (as protective colloids); preparation of poly(vinyl acetate)-based emulsions with less residual monomer content and low odor for adhesive compns.)
- IT Adhesives
Polymerization catalysts
(preparation of poly(vinyl acetate)-based **emulsions** with less residual monomer content and low odor for adhesive compns.)
- IT 9002-89-5, Poly(vinyl alcohol)
RL: NUU (Other use, unclassified); USES (Uses)
(PVA-CST, protective colloid; preparation of poly(vinyl acetate)-based emulsions with less residual monomer content and low odor for adhesive compns.)
- IT 87-69-4, Tartaric acid, uses 7722-84-1, Hydrogen peroxide, uses 7727-54-0, Ammonium persulfate
RL: CAT (Catalyst use); USES (Uses)
(**polymerization** catalyst; preparation of poly(vinyl acetate)-based **emulsions** with less residual monomer content and low odor for adhesive compns.)
- IT 9003-20-7P, Poly(vinyl acetate)
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of poly(vinyl acetate)-based emulsions with less residual monomer content and low odor for adhesive compns.)
- IT 2997-92-4, V 50
RL: CAT (Catalyst use); MOA (Modifier or additive use); USES (Uses)
(residual monomer reducer (as **polymerization** catalyst); preparation of poly(vinyl acetate)-based **emulsions** with less residual monomer content and low odor for adhesive compns.)
- IT 9036-19-5, Noigen EA 170
RL: MOA (Modifier or additive use); USES (Uses)
(residual monomer reducer (as protective colloid); preparation of poly(vinyl acetate)-based emulsions with less residual monomer content and low odor for adhesive compns.)
- IT 108-31-6, Maleic anhydride, uses 6362-80-7, Nofmer MSD 39420-45-6, Blemmer PP 1000
RL: MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(residual monomer reducer (as reactive compound to residual monomers); preparation of poly(vinyl acetate)-based emulsions with less residual monomer content and low odor for adhesive compns.)
- IT 6362-80-7, Nofmer MSD
RL: MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(residual monomer reducer (as reactive compound to residual monomers); preparation of poly(vinyl acetate)-based emulsions with less residual monomer content and low odor for adhesive compns.)
- RN 6362-80-7 HCAPLUS
- CN Benzene, 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bis- (9CI) (CA INDEX NAME)



L69 ANSWER 38 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1996:73222 HCAPLUS

DN 124:88291

TI Reactor for manufacture of polymer latex

IN Nagasaki, Kosuke; Tsukiide, Masayuki

PA Asahi Chemical Ind, Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07292002	A2	19951107	JP 1994-89252	19940427
	JP 2001019705	A2	20010123	JP 2000-154631	19940427
PRAI	JP 1994-89252	A3	19940427		

AB The reactor has a vertical stirrer rotating around its axis and bearing 2 rows of paddles which are arranged in 2 levels where the paddles of lower level are further equipped with elongated fins extending taller than the shoulder of paddles, and aligned in an angle of <90° from the paddles of upper level. **Emulsion polymerization** using the reactor gives polymer latex with minimal micro-agglomeration.

IC ICM C08F002-00

ICS C08F002-22; C08F236-04

CC 35-9 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 39, 47

ST **emulsion polymn** reactor stirrer paddle

IT Polymerization

(apparatus, for manufacture of polymer latex)

IT 69134-81-2P, Butyl acrylate-ethylene glycol diacrylate-methacrylic acid-methyl methacrylate copolymer 84031-96-9P, Methacrylic acid-methyl methacrylate-vinylidene chloride copolymer 172944-83-1P, Butadiene-1,1-diphenylethylene-methacrylamide-methyl methacrylate-styrene copolymer 172944-84-2P, Acrylonitrile-butadiene-2,4-diphenyl-4-methyl-1-pentene-methyl methacrylate-styrene copolymer

RL: IMF (Industrial manufacture); PREP (Preparation)

(reactor for manufacture of polymer latex)

IT 172944-84-2P, Acrylonitrile-butadiene-2,4-diphenyl-4-methyl-1-pentene-methyl methacrylate-styrene copolymer

RL: IMF (Industrial manufacture); PREP (Preparation)

(reactor for manufacture of polymer latex)

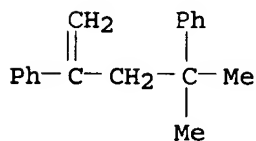
RN 172944-84-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with 1,3-butadiene, 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bis[benzene], ethenylbenzene and 2-propenenitrile (9CI) (CA INDEX NAME)

CM 1

CRN 6362-80-7

CMF C18 H20



CM 2

CRN 107-13-1

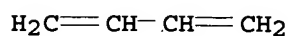
CMF C3 H3 N



CM 3

CRN 106-99-0

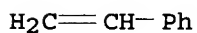
CMF C4 H6



CM 4

CRN 100-42-5

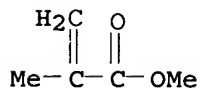
CMF C8 H8



CM 5

CRN 80-62-6

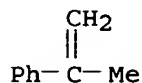
CMF C5 H8 O2



L69 ANSWER 39 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1995:701989 HCAPLUS
DN 123:84328
TI Conjugated diene copolymer latex binders for coating on offset sheet
printing paper and their manufacture
IN Takahashi, Shinichi; Kaino, Masaru
PA Nippon Zeon Co, Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI JP 07118313	A2	19950509	JP 1993-216845	19930810
JP 3345978	B2	20021118		
PRAI JP 1993-216845		19930810		

- AB The title binders, having gel ratio 60-90% and providing coating on paper with good wet and dry pick strength, are manufactured by the chain-transfer **emulsion polymerization** of aliphatic conjugated dienes 20-60, aromatic vinyl compds. 5-60 and other vinyl comonomers 0-75% in the presence of chain-transfer agents selected from C7-16 mercaptan compds. bearing ≥ 1 tert-Bu group. Thus, polymerization of butadiene 45, styrene 20, Me methacrylate 16, acrylonitrile 15, acrylamide 1, itaconic acid 2 and acrylic acid 1 parts in the presence of 2,2,4,6,6-pentamethylheptane-4-thiol, Na dodecylbenzenesulfonate, and persulfate in water at 80° gave a copolymer latex useful for paper coating.
- IC ICM C08F002-38
ICS C08F236-04; D21H021-14; D21H019-56
- CC 35-4 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 42, 43
- ST offset printing paper coating binder; butadiene copolymer latex binder coating; styrene copolymer latex binder coating; itaconate copolymer latex binder coating; methacrylate copolymer latex binder coating; **emulsion polymn** diene latex binder; chain transfer mercaptan **emulsion polymn**
- IT Chain-transfer agents
Coating materials
(conjugated diene copolymer latex binders for coating on sheet offset printing paper and their manufacture)
- IT Thiols, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(conjugated diene copolymer latex binders for coating on sheet offset printing paper and their manufacture)
- IT **Polymerization**
(**emulsion**, conjugated diene copolymer latex binders for coating on sheet offset printing paper and their manufacture)
- IT Paper
(lithog., conjugated diene copolymer latex binders for coating on sheet offset printing paper and their manufacture)
- IT 91829-76-4P, Acrylic acid-acrylonitrile-butadiene-itaconic acid-methyl methacrylate-styrene copolymer 97041-79-7P, Acrylamide-acrylic acid-acrylonitrile-butadiene-itaconic acid-methyl methacrylate-styrene copolymer 146122-11-4P 165387-71-3P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(conjugated diene copolymer latex binders for coating on sheet offset printing paper and their manufacture)
- IT 586-62-9, Terpinolene **6144-04-3**, α -Methylstyrene **dimer** 25103-58-6, tert-Dodecyl mercaptan 93002-38-1, 2,2,4,6,6-Pentamethyl-4-heptanethiol 165387-72-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(conjugated diene copolymer latex binders for coating on sheet offset printing paper and their manufacture)
- IT **6144-04-3**, α -Methylstyrene **dimer**
RL: RCT (Reactant); RACT (Reactant or reagent)
(conjugated diene copolymer latex binders for coating on sheet offset printing paper and their manufacture)
- RN 6144-04-3 HCAPLUS
- CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)
- CM 1
- CRN 98-83-9
CMF C9 H10



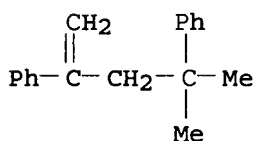
- L69 ANSWER 40 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1994:681263 HCAPLUS
DN 121:281263
TI Preparation of polymers with substituted allyl end group using dimer of α -methylvinyl monomer as addition-fragmentation **chain-transfer** agent at high temperatures
AU Yamada, Bunichiro; Tagashira, Shinji; Aoki, Shuzo
CS Fac. Eng., Osaka City Univ., Osaka, 558, Japan
SO Journal of Polymer Science, Part A: Polymer Chemistry (1994), 32(14), 2745-54
CODEN: JPACEC; ISSN: 0887-624X
DT Journal
LA English
AB The dimerization of Me methacrylate, Et methacrylate, methacrylonitrile, and α -methylstyrene to give $\text{CH}_2:\text{C}(\text{X})\text{CH}_2\text{CMe}_2\text{X}$ ($\text{X} = \text{CO}_2\text{R}$, Ph, or CN), and Me α -ethylacrylate to give $\text{CH}_3\text{CH}:\text{C}(\text{CO}_2\text{Me})\text{CH}_2\text{CMeEtCO}_2\text{Me}$ was carried out using benzylbis(dimethylglyoximate) (pyridine) cobalt(III) catalyst. These dimers were then used as addition-fragmentation **chain-transfer** agents in the polymerization of Me methacrylate and styrene at $\geq 80^\circ$. Codimers with α -methylstyrene were similarly prepared. Among the dimers and codimers, those bearing the α -methylstyrene moiety in the α -substituent [$\text{CH}_2:\text{C}(\text{X})\text{CH}_2\text{CMe}_2\text{Ph}$, $\text{X} = \text{CO}_2\text{R}$ or CN] are noted as highly reactive **chain-transfer** agents.
CC 35-2 (Chemistry of Synthetic High Polymers)
ST **chain transfer** agent allylic dimer; methacrylate dimer **chain transfer** agent
IT Dimerization catalysts
(for preparation of allyl group-containing dimer **chain-transfer** agents)
IT **Chain-transfer** agents
(preparation of allyl group-containing dimers as addition-fragmentation **chain transfer** agents for vinyl monomers)
IT 80-62-6 100-42-5, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(allyl group-containing dimers as addition-fragmentation **chain-transfer** agents for polymerization of)
IT 27860-79-3, Benzylbis(dimethylglyoximate) (pyridine) cobalt(III)
RL: CAT (Catalyst use); USES (Uses)
(catalyst for preparation of allyl group-containing dimer **chain-transfer** agents)
IT 6362-80-7P, 4-Methyl-2,4-diphenyl-1-pentene 71674-93-6P, Dimethyl 2,2-dimethyl-4-methylenepentanedioate 100371-68-4P, 2,2-Dimethyl-4-phenyl-4-pentenitrile 106471-98-1P, Diethyl 2,2-dimethyl-4-methylenepentanedioate 128454-73-9P, Methyl 4-methyl-2-methylene-4-phenylpentanoate 158987-24-7P, Dimethyl 5-ethyl-2,5-dimethyl-2-hexenedioate 158987-25-8P, Methyl 2,2-dimethyl-4-phenyl-4-pentenoate 158987-26-9P, Ethyl 4-methyl-2-methylene-4-phenylpentanoate 158987-27-0P, Ethyl 2,2-dimethyl-4-phenyl-4-pentenoate 158987-28-1P, 4-Methyl-2-methylene-4-phenylpentanenitrile 158987-29-2P, 2,2-Dimethyl-4-methylenepentanedinitrile
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(chain-transfer agent; preparation of allyl group-containing dimers as addition-fragmentation chain-transfer agents for vinyl monomers)

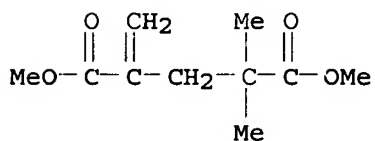
IT 6362-80-7P, 4-Methyl-2,4-diphenyl-1-pentene 71674-93-6P, Dimethyl 2,2-dimethyl-4-methylenepentanedioate 106471-98-1P, Diethyl 2,2-dimethyl-4-methylenepentanedioate 128454-73-9P, Methyl 4-methyl-2-methylene-4-phenylpentanoate 158987-25-8P, Methyl 2,2-dimethyl-4-phenyl-4-pentenoate 158987-26-9P, Ethyl 4-methyl-2-methylene-4-phenylpentanoate 158987-27-0P, Ethyl 2,2-dimethyl-4-phenyl-4-pentenoate
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(chain-transfer agent; preparation of allyl group-containing dimers as addition-fragmentation chain-transfer agents for vinyl monomers)

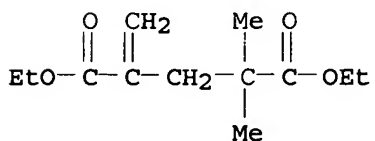
RN 6362-80-7 HCAPLUS
CN Benzene, 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bis- (9CI) (CA INDEX NAME)



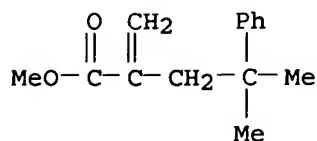
RN 71674-93-6 HCAPLUS
CN Pentanedioic acid, 2,2-dimethyl-4-methylene-, dimethyl ester (9CI) (CA INDEX NAME)



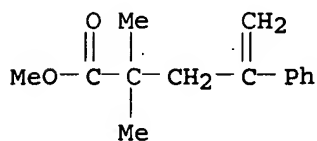
RN 106471-98-1 HCAPLUS
CN Pentanedioic acid, 2,2-dimethyl-4-methylene-, diethyl ester (9CI) (CA INDEX NAME)



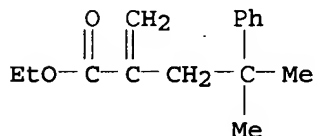
RN 128454-73-9 HCAPLUS
CN Benzenebutanoic acid, γ,γ-dimethyl-α-methylene-, methyl ester (9CI) (CA INDEX NAME)



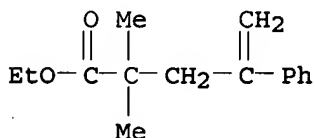
RN 158987-25-8 HCAPLUS

CN Benzenebutanoic acid, α,α -dimethyl- γ -methylene-, methyl ester (9CI) (CA INDEX NAME)

RN 158987-26-9 HCAPLUS

CN Benzenebutanoic acid, γ,γ -dimethyl- α -methylene-, ethyl ester (9CI) (CA INDEX NAME)

RN 158987-27-0 HCAPLUS

CN Benzenebutanoic acid, α,α -dimethyl- γ -methylene-, ethyl ester (9CI) (CA INDEX NAME)

L69 ANSWER 41 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1994:484273 HCAPLUS

DN 121:84273

TI Preparation of copolymer latexes with good blister resistance

IN Tsurusako, Taiji; Sumimoto, Norifumi; Furui, Isao; Matsui, Takashi

PA Japan Synthetic Rubber Co Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06100609	A2	19940412	JP 1992-278081	19920922
PRAI	JP 1992-278081		19920922		

OS MARPAT 121:84273

AB The title latexes, useful for binders, adhesives, coatings, etc., are prepared by **emulsion polymerization** of 10-80% conjugated dienes, 0.5-10% ethylenically unsatd. carboxylic acids, and 10-89.5% other vinyl comonomers in the presence of 0.01-20 phr chain-transfer agents comprising 5-100% dithiocarbamates [R1R2NC(:S)S]nM (R1-2 = C1-6 alkyl, aryl; M = Na, K, Zn, Cu, Fe; n = 1-3) and 0-95% other compds. Thus, butadiene 30, styrene 37, Me methacrylate 30, itaconic acid 2, and fumaric acid 1 part were **emulsion polymerized** in the presence of 1.8 phr Na dimethyldithiocarbamate and 0.5 phr tert-dodecylmercaptan to give latex with gel content 45%, 10 parts of which was blended with clay 80, CaCO3 20, oxidized starch 5, and Na pyrophosphate 0.5 part and applied on a paper to give a coating with good blister resistance and adhesion strength.

IC ICM C08F002-38

ICS C08F236-04

CC 35-4 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 38

ST vinyl monomer suspension polymn latex; blister resistance copolymer latex prepn; binder copolymer latex suspension polymn; chain transfer agent dithiocarbamate latex

IT Chain-transfer agents

(dithiocarbamates, for suspension polymerization of vinyl monomers, latexes from, blister-resistant, for binders)

IT Polymerization

(suspension, of vinyl monomers, dithiocarbamate for, latexes from, blister-resistant, for binders)

IT 97-77-8, Tetraethylthiuram disulfide 6144-04-3,

α -Methylstyrene **dimer** 25103-58-6, tert-Dodecylmercaptan

RL: USES (Uses)

(chain-transfer agents containing, for suspension polymerization of vinyl monomers, latexes from, blister-resistant, for binders)

IT 128-03-0, Potassium dimethyldithiocarbamate 128-04-1, Sodium

dimethyldithiocarbamate 137-30-4, Zinc dimethyldithiocarbamate

RL: USES (Uses)

(chain-transfer agents, for suspension polymerization of vinyl monomers, latexes from, blister-resistant, for binders)

IT 82442-13-5P, Butadiene-fumaric acid-itaconic acid-methyl

methacrylate-styrene copolymer 91829-76-4P, Acrylic acid-acrylonitrile-

butadiene-itaconic acid-methyl methacrylate-styrene copolymer

122458-52-0P

RL: PREP (Preparation)

(latex, preparation of, by suspension polymerization, dithiocarbamate chain-transfer agents in, blister-resistant, for binders)

IT 6144-04-3, α -Methylstyrene **dimer**

RL: USES (Uses)

(chain-transfer agents containing, for suspension polymerization of vinyl monomers, latexes from, blister-resistant, for binders)

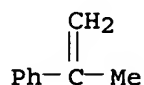
RN 6144-04-3 HCAPLUS

CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)

CM 1

CRN 98-83-9

CMF C9 H10



L69 ANSWER 42 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1994:79769 HCAPLUS

DN 120:79769

TI Preparation of copolymer latexes as binders for coatings for paper

IN Suzuki, Shigeo; Abe, Susumu; Maeda, Fuyuo; Seo, Tomotaka

PA Takeda Chemical Industries, Ltd., Japan

SO Ger. Offen., 38 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 4236316	A1	19930506	DE 1992-4236316	19921028
	JP 05178918	A2	19930720	JP 1992-48762	19920305
	JP 3242972	B2	20011225		
	JP 05255413	A2	19931005	JP 1992-52853	19920311
	JP 3238455	B2	20011217		
	JP 05255414	A2	19931005	JP 1992-52854	19920311
	JP 05255415	A2	19931005	JP 1992-52855	19920311
	JP 05320216	A2	19931203	JP 1992-282882	19921021
	US 5354800	A	19941011	US 1992-967741	19921028
	CA 2081820	AA	19930501	CA 1992-2081820	19921030
	CN 1071931	A	19930512	CN 1992-112608	19921030
	CN 1048504	B	20000119		
PRAI	JP 1991-286818	A	19911031		
	JP 1991-286819	A	19911031		
	JP 1992-48762	A	19920305		
	JP 1992-52853	A	19920311		
	JP 1992-52854	A	19920311		
	JP 1992-52855	A	19920311		

AB The title latexes are prepared by emulsion polymerization of parts of mixts. of conjugated dienes, vinyl compds., and unsatd. carboxylic acids in the presence of hydrophilic chain-transfer agents to form latexes and polymerizing the remaining monomers in these latexes in the presence of hydrophobic chain-transfer agents. Emulsion polymerization of a mixture of butadiene 5, styrene 6, MMA 2, fumaric acid 2, and 2-mercaptopropionic acid (I) 0.05 parts at 70° followed by addition of butadiene 30, styrene 45, MMA 8, acrylic acid 1, methacrylic acid 1, I 0.2, and tert-C12H25SH 0.2 part gave a copolymer latex which was concentrated to 50% solids and used in the preparation of a coating for paper with good dry and wet bursting strength, gloss, and ink reception.

IC C08F236-04; C08F220-04; C08F222-02; C08F002-22; C08F002-38; D21H019-20; D21H019-58; C08F212-04; C08F236-04; C08F220-10; C08F220-42; C08F220-54

CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)

Section cross-reference(s): 35, 42

ST latex copolymer manuf coating; coating paper polymer latex; emulsion polymn chain transfer; methacrylate copolymer latex coating; butadiene copolymer latex coating; styrene copolymer latex coating

IT Sulfides, uses

Thiols, uses

RL: USES (Uses)

(chain-transfer agents, acrylic copolymer latex manufacture in presence of)

IT Paper
(coatings for, acrylic copolymer latex manufacture for use in)

IT Coating materials
(for paper, acrylic copolymer latex manufacture for use in)

IT Chain-transfer agents
(hydrophilic and hydrophobic, in emulsion polymerization
of acrylic compds.)

IT 56-23-5, Tetrachloromethane, uses 56-89-3, L-Cystine, uses 60-24-2,
2-Mercaptoethanol 68-11-1, Mercaptoacetic acid, uses 76-03-9,
Trichloroacetic acid, uses 79-42-5, 2-Mercaptopropionic acid 97-77-8,
Tetraethylthiuram disulfide 107-07-3, 2-Chloroethanol, uses 111-48-8,
2,2'-Thiodiethanol 119-80-2, 2,2'-Dithiodibenzoic acid 123-93-3
505-73-7, Dithiodiacetic acid 592-88-1, Diallyl sulfide 598-72-1,
2-Bromopropionic acid 1119-62-6, 3,3'-Dithiodipropionic acid
2079-95-0, 1-Tetradecanethiol 2179-57-9, Diallyl disulfide 2906-60-7,
4,4'-Dithiodibutyric acid 2917-26-2, 1-Hexadecanethiol 6144-04-3
, α -Methylstyrene dimer 25103-58-6, tert-Dodecanethiol
25360-09-2, tert-Hexadecanethiol 57813-59-9, 2-Mercaptoethyl octanoate
96841-63-3 132678-93-4
RL: USES (Uses)
(chain-transfer agents, acrylic copolymer latex manufacture in presence of)

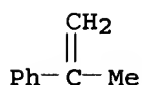
IT 52404-70-3P 59911-52-3P 85600-91-5P 94927-11-4P 95584-64-8P
144718-77-4P 149671-37-4P 152275-70-2P 152585-12-1P
RL: PREP (Preparation)
(latexes, manufacture of, as binders for coatings for paper)

IT 6144-04-3, α -Methylstyrene dimer
RL: USES (Uses)
(chain-transfer agents, acrylic copolymer latex manufacture in presence of)

RN 6144-04-3 HCAPLUS
CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)

CM 1

CRN 98-83-9
CMF C9 H10



L69 ANSWER 43 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1994:55324 HCAPLUS

DN 120:55324

TI Manufacture of expandable vinyl polymer particles

IN Kunitake, Kazuhiko; Kanamaru, Kenji; Kanega, Fumiaki

PA Hitachi Chemical Co Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 05214153	A2	19930824	JP 1992-19934	19920205
PRAI	JP 1992-19934		19920205		

AB The title particles with narrow particle size distribution and giving

expanded molding with good appearance, are manufactured by suspension polymerization of vinyl monomers in aqueous medium in the presence of hardly soluble phosphate salts and anionic surfactants, while adjusting H ion concentration to 10-5-10-8 at <5% conversion, 10-10-10-12 at 5-10% conversion, ≥10-10 and <10-7.5 at 10-30% conversion, ≥10-8 and <10-5 at 30-50% conversion, and 10-5-10-8 at ≥50% conversion and adding chain-transfer agents at 50-90% conversion. Thus, polymerization of 1200 g styrene in an aqueous suspension containing 2.4 g Ca₃(PO₄)₂, 0.06 g Na dodecylbenzenesulfonate, 0.26% Bz₂O₂, and 0.2% Bu stearate at 90° while adjusting pH to 7.5, 10.6, 8.5, 8.2, 7.6, and 7.5 at 0, 8, 25, 30, 40, and 60% conversions, resp., addition of 2.4 g α-methylstyrene dimer at 70% conversion, and finishing the polymerization at 110° gave polystyrene expandable beads with average diameter 0.94 mm and narrow size distribution, whose foams showed good surface smoothness.

IC ICM C08J009-18

ICS C08F002-18; C08F002-38

CC 35-4 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 38

ST vinyl polymer expandable bead manuf; polystyrene expandable bead manuf;
foam polystyrene surface smoothness

IT Particle size

(control of, in suspension polymerization of vinyl monomers, by pH adjustment)

IT Chain-transfer agents

(in suspension polymerization of vinyl monomers, for manufacture of expandable beads with uniform particle size)

IT Dispersing agents

(phosphate salts, in suspension polymerization of vinyl monomers, for manufacture of expandable beads with uniform particle size)

IT Surfactants

(anionic, in suspension polymerization of vinyl monomers, for manufacture of expandable beads with uniform particle size)

IT Polymerization catalysts

(suspension, for vinyl monomers, in manufacture of expandable beads with uniform particle size)

IT Polymerization

(suspension, of vinyl monomers, expandable beads from, particle size control in)

IT 94-36-0, Benzoyl peroxide, uses 3006-82-4, tert-Butyl peroxy-2-ethylhexanoate

RL: CAT (Catalyst use); USES (Uses)

(catalyst, in suspension polymerization of vinyl monomers, for expandable beads manufacture)

IT 6144-04-3, α-Methylstyrene dimer

RL: USES (Uses)

(chain-transfer agent, in suspension polymerization of vinyl monomers, for manufacture of expandable beads with uniform particle size)

IT 7758-87-4, Calcium phosphate

RL: USES (Uses)

(dispersant, in suspension polymerization of vinyl monomers, for expandable beads manufacture)

IT 9003-53-6P, Polystyrene

RL: PREP (Preparation)

(expandable beads, manufacture of, with uniform particle size, pH control in)

IT 25155-30-0, Sodium dodecylbenzenesulfonate

RL: USES (Uses)

(surfactant, in suspension polymerization of vinyl monomers, for expandable beads manufacture)

IT 6144-04-3, α-Methylstyrene dimer

RL: USES (Uses)

(chain-transfer agent, in suspension polymerization of vinyl monomers, for manufacture of expandable beads with uniform particle size)

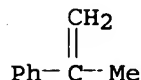
RN 6144-04-3 HCAPLUS

CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)

CM 1

CRN 98-83-9

CMF C9 H10



L69 ANSWER 44 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1994:55140 HCAPLUS

DN 120:55140

TI Synthesis and copolymerization behavior of methacrylate dimers

AU Abbey, K. J.; Trumbo, D. L.; Carlson, G. M.; Masola, M. J.; Zander, R. A.

CS Thomas Lord Res. Cent., Lord Corp., Cary, NC, 17511, USA

SO Journal of Polymer Science, Part A: Polymer Chemistry (1993), 31(13), 3417-24

CODEN: JPACEC; ISSN: 0887-624X

DT Journal

LA English

AB Methacrylic ester-based dimers and oligomers were synthesized using a metal-based catalytic **chain transfer** agent.

Conditions were employed which maximized the yield of unsatd. dimers, and the copolymn. behavior of these dimers was investigated. The mol. weight and polymer yield decrease with increasing dimer concentration in the copolymn. feeds.

CC 35-4 (Chemistry of Synthetic High Polymers)

ST methacrylate dimer prepn copolymn

IT Polymerization

Q-e value in polymerization

Reactivity ratio in polymerization

(of methacrylate dimers with vinyl compds.)

IT Chains, chemical

(sequence length of, in methacrylate dimer-vinyl compound copolymers)

IT 100-42-5, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(copolymn. of, with methacrylate dimers, reactivity ratios in)

IT 80-62-6 96-05-9 97-88-1 106-91-2 868-77-9

RL: RCT (Reactant); RACT (Reactant or reagent)

(dimerization of)

IT 152368-78-0P 152368-79-1P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation and characterization of)

IT 28261-32-7P, Methyl methacrylate dimer 100639-41-6P, Glycidyl

methacrylate dimer 106471-99-2P 152368-74-6P 152368-75-7P

152368-76-8P 152368-77-9P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation and copolymn. of, with vinyl compds.)

IT 152368-73-5P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

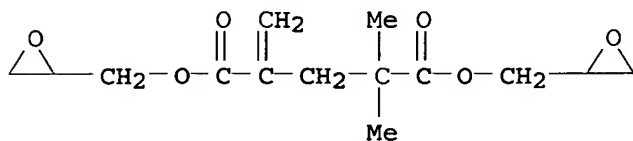
(preparation and properties of, monomer charge in relation to)

IT 100639-41-6P, Glycidyl methacrylate dimer

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and copolymn. of, with vinyl compds.)

RN 100639-41-6 HCAPLUS

CN Pentanedioic acid, 2,2-dimethyl-4-methylene-, bis(oxiranylmethyl) ester
(9CI) (CA INDEX NAME)



L69 ANSWER 45 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1993:671983 HCAPLUS

DN 119:271983

TI Manufacture of diene copolymer latexes and carpet backsizings and paper coatings using them

IN Muroi, Toshimasa; Tsurumi, Michio; Nakahara, Yasuyuki

PA Asahi Chemical Ind, Japan

SO Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 05178917	A2	19930720	JP 1991-345755	19911227
	JP 3136181	B2	20010219		
PRAI	JP 1991-345755		19911227		

AB The title latexes, useful for adhesives, etc., are manufactured by **emulsion polymerization** of 100 parts mixts. comprising conjugated dienes, ethylenically unsatd. carboxylic acids, and other comonomers in the presence of 0.1-10 parts 1-Me-substituted vinyl compound **dimers** as polymerization modifiers and compns. containing the latexes and clay- and/or Ca carbonate-based inorg. pigments for paper coatings and carpet backsizings are claimed. Thus, 12 parts a latex containing 38.5:32.5:15:10:1.5:2.5 styrene-butadiene-Me methacrylate-acrylonitrile-hydroxyethyl acrylate-itaconic acid copolymer prepared by **emulsion polymerization** in the presence of 2.5 parts Me methacrylate **dimer** was mixed with Ultra White 90 45, Ultra Cote 20, Eskalon 1500 35, Aron T-40 (dispersing agent) 0.2, and MS 4600 3 parts to give a 64%-solids coating, which was applied to paper to give a test piece showing blistering at 270° in silicone-oil bath and balanced adhesion and dry and wet pick strength.

IC ICM C08F002-38

ICS C08F236-04; D06M015-693; D21H019-20

CC 35-4 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 37, 38, 40, 42, 43

ST **emulsion polymn** copolymer latex manuf; vinyl **dimer emulsion polymn** modifier; paper coating binder latex copolymer; carpet back sizing diene polymer latex; adhesion diene based latex

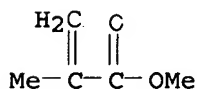
IT Carpets

(backsizings of, latexes of copolymers of conjugated dienes and ethylenically unsatd. carboxylic acids as)

IT Coating materials

(binders for, diene copolymer latexes as, with blistering resistance

- and adhesion property, for papers)
- IT Paper
(coating binders for, diene copolymer latexes for, with blistering resistance and adhesion property)
- IT Sizes
(latexes of copolymers of conjugated dienes and ethylenically unsatd. carboxylic acids, for carpet backings).
- IT Kaolin, uses
RL: USES (Uses)
(pigments, Ultra White 90, paper coatings or carpet backsizings containing diene copolymer latexes and, with blistering resistance and adhesion property)
- IT Pigments
(pigments, paper coatings or carpet backsizings containing diene copolymer latexes and, with blistering resistance and adhesion property)
- IT 471-34-1, Eskalon 1500, uses
RL: USES (Uses)
(pigments, Eskalon 1500, paper coatings or carpet backsizings containing diene copolymer latexes and, with blistering resistance and adhesion property)
- IT 26877-03-2, Methacrylonitrile dimer 28261-32-7, Methyl methacrylate dimer
RL: USES (Uses)
(polymerization modifiers, for latexes, for paper coating binders and carpet backsizings)
- IT 69702-47-2P 70857-13-5P, Acrylonitrile-butadiene-itaconic acid-methyl methacrylate-styrene copolymer 84795-59-5P 149038-55-1P
RL: PREP (Preparation)
(preparation of, latexes, by emulsion polymerization, methyl-substituted vinyl compound dimer modifiers for, for paper coatings and carpet backsizings)
- IT 28261-32-7, Methyl methacrylate dimer
RL: USES (Uses)
(polymerization modifiers, for latexes, for paper coating binders and carpet backsizings)
- RN 28261-32-7 HCAPLUS
- CN 2-Propenoic acid, 2-methyl-, methyl ester, dimer (9CI) (CA INDEX NAME)
- CM 1
- CRN 80-62-6
- CMF C5 H8 O2



- L69 ANSWER 46 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN
- AN 1993:496436 HCAPLUS
- DN 119:96436
- TI Preparation of organic solvent-soluble glycidyl (meth)acrylate polymer particles with high residual ratio of the epoxy group and long-term stability
- IN Okuo, Masami; Enomoto, Hiroyuki; Nishimura, Junichi
- PA Nippon Oils & Fats Co Ltd, Japan
- SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF

DT Patent
LA Japanese
FAN.CNT 1

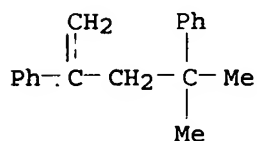
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 05009220	A2	19930119	JP 1991-183931	19910628
PRAI	JP 1991-183931		19910628		
AB	Title particles are prepared by suspension polymerization of glycidyl (meth)acrylate (I) or monomer mixts. containing $\geq 65\%$ I in H ₂ O at $\leq 60^\circ$ in the presence of (a) polymerization initiators [10-h half life temperature (A) $\leq 70^\circ$], (b) chain transfer agents selected from C tetrahalides, dimers of styrenes, and (meth)acrylate ester dimers, and (c) nonionic surfactants. Thus, 140 parts glycidyl methacrylate and 60 parts styrene were suspension-polymerized in the presence of tert-hexylperoxy neohexanoate (A 49.7%), 2,5-di(methoxycarbonitrile)-1-hexene, and ethylene oxide-propylene oxide block copolymer under N at 60° for 20 h to obtain THF-soluble particles showing initial residual ratio of the epoxy group 93% and 93% after 20 h at 100° in a hot-air dryer.				
IC	ICM C08F020-32				
	ICS C08F002-38				
CC	35-4 (Chemistry of Synthetic High Polymers)				
ST	glycidyl methacrylate copolymer particle prepn; styrene copolymer glycidyl methacrylate; THF sol glycidyl methacrylate copolymer; epoxy retention glycidyl methacrylate copolymer				
IT	Chain-transfer agents				
	Surfactants				
	(for suspension polymerization of glycidyl (meth)acrylate)				
IT	Epoxy resins, preparation				
	RL: PREP (Preparation)				
	(acrylic, preparation of, particles, organic solvent-soluble, with high content of residual epoxy groups and long-term stability)				
IT	Polymerization catalysts				
	(suspension, for preparation of organic solvent-soluble glycidyl (meth)acrylate polymer particles)				
IT	56-23-5, Carbon tetrachloride, uses 4513-62-6 6362-80-7,				
	2,4-Diphenyl-4-methyl-1-pentene				
	RL: USES (Uses)				
	(chain transfer agents, for preparation of organic solvent-soluble glycidyl (meth)acrylate polymer particles)				
IT	105-64-6, Di(isopropylperoxy) dicarbonate 4419-11-8 15545-97-8				
	32752-09-3, Diisobutyl peroxide 148947-14-2				
	RL: USES (Uses)				
	(polymerization initiators, for preparation of organic solvent-soluble glycidyl (meth)acrylate polymer particles)				
IT	25067-05-4P, Poly(glycidyl methacrylate) 25167-42-4P, Glycidyl methacrylate-styrene copolymer 26141-88-8P, Glycidyl methacrylate-methyl methacrylate copolymer 26374-91-4P, Poly(glycidyl acrylate) 26374-92-5P, Glycidyl acrylate-styrene copolymer 26660-38-8P, Acrylonitrile-glycidyl methacrylate copolymer 33411-45-9P, Acrylonitrile-glycidyl methacrylate-methyl methacrylate-styrene copolymer				
	RL: PREP (Preparation)				
	(preparation of, particles, organic solvent-soluble, with high content of residual epoxy groups and long-term stability)				
IT	9002-89-5 9004-95-9, Poly(ethylene oxide) cetyl ether 9016-45-9				
	106392-12-5, Ethylene oxide-propylene oxide block copolymer				
	RL: USES (Uses)				
	(surfactants, for preparation of organic solvent-soluble glycidyl (meth)acrylate polymer particles)				
IT	6362-80-7, 2,4-Diphenyl-4-methyl-1-pentene				

RL: USES (Uses)

(chain transfer agents, for preparation of organic solvent-soluble glycidyl (meth)acrylate polymer particles)

RN 6362-80-7 HCAPLUS

CN Benzene, 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bis- (9CI) (CA INDEX NAME)



L69 ANSWER 47 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1993:430304 HCAPLUS

DN 119:30304

TI Preparation of conjugated diene copolymer latexes and compositions for paper coatings or carpet backings

IN Muroi, Toshimasa; Tsurumi, Michio

PA Asahi Chemical Ind, Japan

SO Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 05017510	A2	19930126	JP 1991-173846	19910715
	JP 2777620	B2	19980723		
PRAI	JP 1991-173846		19910715		

AB The title compns. comprise inorg. pigments and the latexes prepared by **emulsion polymerization** of 100 parts monomers containing conjugated dienes, ethylenically unsatd. carboxylic acids, and other copolymerizable monomers using chain-transfer agents containing 0.05-2.0 parts $\text{Me}_2\text{C}(\text{C}_6\text{H}_3\text{XY})\text{CH}_2\text{C}(\text{:CH}_2)\text{C}_6\text{H}_3\text{XY}$ (X, Y = H, halo, C1-4 alkyl, OMe, OH, glycidyl, Ac, alkylthio) and 0.05-3 parts S-containing compds. and adding 0.05-2.0 parts KOH after polymerization Thus, itaconic acid 2.5, styrene 56.5, butadiene 33, and acrylonitrile 8 parts were **emulsion polymerized** in the presence of 1.2 parts tert-dodecyl mercaptan and 1.0 part α -methylstyrene dimer at 80°, then 0.4 part KOH was added to give a 50%-solid latex, 12 parts of which was mixed with clays 65, CaCO_3 35, dispersant 0.2, and starch 3 parts to give a composition forming a coating on paper with dry pick grade 4.2, wet pick grade 3.9, and blister-formation temperature 265°.

IC ICM C08F002-38

ICS C08F236-14

CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)

Section cross-reference(s): 38, 42

ST diene polymer latex prepn; methylstyrene chain transfer agent latex; sulfur chain transfer agent latex; **emulsion polymn** diene latex; carpet backing diene polymer latex; paper coating diene polymer latex; blister resistance coating paper latex

IT Coating materials

(binders for, diene polymer latexes as, manufacture of, for paper)

IT Paper

(coatings for, diene polymer latex binders for, manufacture of)

IT Binding materials

(diene polymer latexes, manufacture of, for carpet backings)

IT Kaolin, uses
RL: USES (Uses)
(pigments, diene polymer latexes containing, for paper coatings and carpet backings)

IT Chain-transfer agents
(α -methylstyrene dimer-sulfur compds., in preparation of diene polymer latexes)

IT Carpets
(backings, diene polymer latex binders, manufacture of)

IT 6144-04-3, α -Methylstyrene dimer
RL: USES (Uses)
(chain-transfer agents, with sulfur compds., in manufacture of diene polymer latexes)

IT 7659-86-1 25103-58-6, tert-Dodecyl mercaptan
RL: USES (Uses)
(chain-transfer agents, with α -methylstyrene dimers, in manufacture of diene polymer latexes)

IT 1310-58-3, Potassium hydroxide, uses
RL: USES (Uses)
(in emulsion polymerization of dienes, for preparation of latexes)

IT 471-34-1, Eskalon 1500, uses
RL: USES (Uses)
(pigments, diene polymer latexes containing, for paper coatings and carpet backings)

IT 29383-53-7P 70857-11-3P 70857-13-5P 84795-59-5P 148251-10-9P 148251-11-0P
RL: IMF (Industrial manufacture); PREP (Preparation)
(preparation of, latexes, for paper coatings and carpet backings)

IT 6144-04-3, α -Methylstyrene dimer
RL: USES (Uses)
(chain-transfer agents, with sulfur compds., in manufacture of diene polymer latexes)

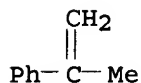
RN 6144-04-3 HCAPLUS

CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)

CM 1

CRN 98-83-9

CMF C9 H10



L69 ANSWER 48 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1993:23989 HCAPLUS

DN 118:23989

TI Preparation of diene copolymer latexes

IN Kaneko, Takashi; Muroi, Toshimasa; Tsurumi, Michio

PA Asahi Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04239502	A2	19920827	JP 1991-5940	19910122
	JP 3121620	B2	20010109		
PRAI	JP 1991-5940		19910122		

AB The title latexes useful as binders for coating materials for printing paper are prepared by **emulsion polymerization** of a mixture comprising conjugated dienes, unsatd. carboxylic acids, and other monomers in the presence of chain-transfer agents containing S and 0.1-4% (based on monomers) Me₂C(C₆H₃R₁R₂)CH₂C(C₆H₃R₁R₂):CH₂ (I) (R₁-2 = H, halogen, Cl-4 alkyl, MeO, OH, glycidyl, MeCO, alkylmercapto). Thus, styrene 50.5, butadiene 34, Me methacrylate 8, and acrylonitrile 5 parts were **emulsion polymerized** in the presence of 1.4 parts 95:5 mixture of 2,4-diphenyl-4-methyl-1-pentene and 2,4-diphenyl-4-methyl-2-pentene, 1.0 part tert-dodecyl mercaptan, and 3.0 parts polystyrene to obtain a copolymer latex (50% solid), 12 parts of which was blended with clays 70, heavy CaCO₃ 30, and starch 3 parts to give a coating composition showing good blister resistance.

IC ICM C08F002-38
ICS C08F236-04

CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)
Section cross-reference(s): 37, 42

ST diene polymer latex coating paper; methylstyrene **dimer** chain transfer agent; sulfur compd chain transfer agent; blister resistant paper coating; binder printing paper coating material

IT Paper
(coatings for, blister-resistant, diene polymer latexes as binders for)

IT Coating materials
(for paper, diene polymer binders for, blister-resistant)

IT Chain-transfer agents
(methylstyrene **dimers**, for manufacture of diene polymer latexes)

IT 6258-73-7 6362-80-7, 2,4-Diphenyl-4-methyl-1-pentene
RL: USES (Uses)
(chain-transfer agents, for manufacture of diene polymer latexes)

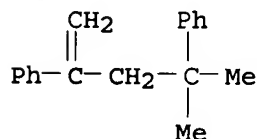
IT 137-26-8, Tetramethylthiuram disulfide 7659-86-1 25103-58-6, tert-Dodecyl mercaptan
RL: USES (Uses)
(chain-transfer agents, with methylstyrene **dimers**, for manufacture of diene polymer latexes)

IT 9010-94-0, Acrylonitrile-butadiene-methyl methacrylate-styrene copolymer
RL: USES (Uses)
(latexes, binders, for paper coatings, blister-resistant)

IT 6362-80-7, 2,4-Diphenyl-4-methyl-1-pentene
RL: USES (Uses)
(chain-transfer agents, for manufacture of diene polymer latexes)

RN 6362-80-7 HCAPLUS

CN Benzene, 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bis- (9CI) (CA INDEX NAME)



DN 117:252484
TI Manufacture of conjugated diene-ethylene-based copolymer latexes
IN Tsuruoka, Katsuhiko; Ishikawa, Osamu; Nishida, Shozo
PA Japan Synthetic Rubber Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04161403	A2	19920604	JP 1990-289419	19901026
	JP 2926963	B2	19990728		
PRAI	JP 1990-289419		19901026		

AB Title latexes, useful for odorless adhesives showing prevention of blisters, are prepared by emulsion polymerization of 100 parts compns. containing 10-80 parts conjugated dienes and 20-90 parts ethylene-type unsatd. monomers in the presence of 0.1-10 parts chain-transfer agents and 0.5-20 parts water-soluble ethers and/or monoalcs. Thus, a mixture of butadiene (I) 5, styrene (II) 8, Me methacrylate (III) 3, itaconic acid 2, and acrylic acid 1 part was emulsion polymerized in the presence of tert-dodecylmercaptan, K2S2O6 and Na dodecylbenzenesulfonate then mixed with I 23, II 46, and III 12 parts and further polymerized to give title latex, 10 parts of which was mixed with clay 80, CaCO3 20, oxidized starch 5, Na pyrophosphate 0.5 part in water to give a 60%-solid composition Paper coated with the latex showed good blister resistance in hot oil.

IC ICM C08F002-38

ICS C09J125-08; C09J133-00; C09J147-00

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 38

ST latex emulsion polymn adhesive; odorless adhesive blister prevention;
conjugated polyene copolymer latex; monoalc ether emulsion polymn latex

IT Adhesives

(latexes of copolymers of conjugated dienes and ethylene-type unsatd. monomers, odorless, blister-resistant)

IT Polymerization

(emulsion, of conjugated dienes and ethylene-type unsatd. monomers, for latexes, for adhesives)

IT 97-77-8, Tetraethylthiuram disulfide 6144-04-3 25103-58-6,
tert-Dodecylmercaptan

RL: USES (Uses)

(chain-transfer agents, for emulsion polymerization of conjugated dienes, for latexes, for adhesives)

IT 25155-30-0, Sodium dodecylbenzenesulfonate

RL: USES (Uses)

(emulsifiers, for emulsion polymerization of conjugated dienes, for latexes, for adhesives)

IT 64-17-5, Ethanol, uses 67-56-1, Methanol, uses 67-63-0, 2-Propanol,
uses 71-23-8, 1-Propanol, uses 71-36-3, Butanol, uses 109-99-9, uses
123-91-1, Dioxane, uses

RL: USES (Uses)

(emulsion polymerization of conjugated dienes and ethylene-type unsatd. monomers in presence of, for adhesives)

IT 7727-21-1, Potassium persulfate

RL: USES (Uses)

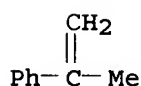
(polymerization initiators, for emulsion polymerization of conjugated dienes, for latexes, for adhesives)

IT 70857-14-6P, Acrylic acid-butadiene-itaconic acid-methyl
methacrylate-styrene copolymer 91829-76-4P, Acrylic acid-acrylonitrile-
butadiene-itaconic acid-methyl methacrylate-styrene copolymer

94927-11-4P
RL: PREP (Preparation)
(preparation of, latexes, for adhesives, prevention of odor and blister in)
IT 6144-04-3
RL: USES (Uses)
(chain-transfer agents, for emulsion polymerization of
conjugated dienes, for latexes, for adhesives)
RN 6144-04-3 HCAPLUS
CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)

CM 1

CRN 98-83-9
CMF C9 H10



L69 ANSWER 50 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1992:635466 HCAPLUS

DN 117:235466

TI Preparation of latex copolymers as highly functional binders

IN Muroi, Toshimasa; Tsurumi, Michio; Nakahara, Yasuyuki

PA Asahi Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 22 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04159340	A2	19920602	JP 1991-434	19910108
PRAI	JP 1990-90165	A1	19900406		

AB Polymer latexes, useful as fiber binders and carpet backings, are prepared by emulsion polymerization of conjugated dienes, ethylenic unsatd. acids, and other monomers in the presence of chain-transfer agents comprising α -methylstyrene dimers (A) and S compds. (B) at A/B 2-50. Thus, a 185-nm acrylonitrile-butadiene-2,4-diphenyl-4-methyl-1-pentene-Me methacrylate-styrene-ethylhexyl thioglycolate telomer latex was used as adhesive for LDPE, in polypropylene carpet backing or in coating on paper to show good blister resistance.

IC ICM C08L009-08

ICS C08F002-24; C08F002-38; C08F236-04; C09J109-10

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 40, 42, 43

ST acrylonitrile telomer binder fabric; butadiene telomer binder fabric; styrene telomer binder fabric; Me methacrylate telomer binder fabric; sulfur chain transfer agent; methylstyrene dimer chain transfer agent; coating butadiene styrene telomer; adhesive butadiene styrene telomer; fabric binder butadiene styrene telomer

IT Adhesives

Binding materials

(butadiene- and styrene-based telomer emulsion latexes, manufacture of)

IT Paper

(coatings for, butadiene- and styrene-based telomer latexes as, manufacture of)

IT Carpets
(backings, butadiene- and styrene-based telomer latexes as, manufacture of)

IT Telomerization
(emulsion, of butadiene and styrene, in presence of sulfur compds. and methylstyrene dimer chain-transfer agents, for binding materials)

IT Coating materials
(latex, butadiene- and styrene-based telomer emulsion, manufacture of)

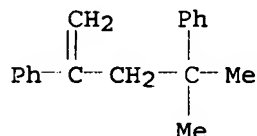
IT 6258-73-7 6362-80-7 7659-86-1 25103-58-6, tert-Dodecanethiol
RL: USES (Uses)
(chain-transfer agents, preparation of butadiene- and styrene-based telomer emulsion latexes in presence of)

IT 9003-55-8P 9010-94-0P 25086-98-0P
RL: PREP (Preparation)
(preparation of, in presence of sulfur compds. and methylstyrene dimer chain-transfer agents)

IT 6362-80-7
RL: USES (Uses)
(chain-transfer agents, preparation of butadiene- and styrene-based telomer emulsion latexes in presence of)

RN 6362-80-7 HCAPLUS

CN Benzene, 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bis- (9CI) (CA INDEX NAME)



L69 ANSWER 51 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1992:409506 HCAPLUS

DN 117:9506

TI Preparation of diene copolymer latexes with high adhesion

IN Muroi, Toshimasa; Okubo, Toshiya; Tsurumi, Michio; Nakahara, Yasuyuki

PA Asahi Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

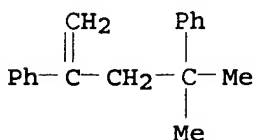
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04041512	A2	19920212	JP 1990-148604	19900608
	JP 2933985	B2	19990816		
PRAI	JP 1990-148604		19900608		

AB The title latexes, useful as binders for paper coating, carpet back-sizing, and fiber bonding, are prepared by emulsion polymerization of 50-80% monomer compns. (A) containing conjugated dienes, ethylenic unsatd. carboxylic acids, and other polymerizable monomers in aqueous media in the presence of alkylthiols (B) as chain-transfer agents followed by emulsion polymerization of the rest of A in the presence of chain-transfer agents except B. Thus, a monomer mixture containing acrylonitrile (I) 3, butadiene (II) 17, Me methacrylate (III) 4, styrene (IV) 24.75, and tert-dodecylmercaptan 0.4 part was added at 80° over 2 h with stirring into a mixture containing a 25% seed particle dispersion 4, H2O 70, Na laurylsulfate (V) 0.2, and fumaric acid 2.5 parts

in an autoclave followed by addition of a monomer mixture containing I 3, II 17, III 4, IV 24.75, and 2,4-diphenyl-4-methyl-1-pentene 1.5 parts over 2 h with addition of an aqueous solution containing Na₂S₂O₈, NaOH, and V over 5 h from the beginning of the polymerization, kept at 80° for 1 h, and then the pH was adjusted to obtain a polymer latex. A paper was coated by a clay-based aqueous composition containing the latex as a binder then printed and impregnated with a silicone oil to show no blistering.

- IC ICM C08F002-38
ICS C08F236-04; D06M015-693; D21H019-56
- CC 38-3 (Plastics Fabrication and Uses)
- ST vinyl polymer latex adhesive binder; acrylonitrile copolymer latex adhesion prepn; butadiene copolymer latex adhesion prepn; fumaric acid copolymer latex adhesion; methyl methacrylate copolymer latex adhesion; styrene copolymer latex adhesion prepn; alkylthiol chain transfer agent polymn; dodecylmercaptan chain transfer agent polymn; phenylmethylpentene chain transfer agent polymn
- IT Chain-transfer agents
(alkylthiols and others, for two-step polymerization of conjugated dienes, for latexes, with improved adhesion)
- IT Carpets
(back-sizing of, binders for, diene copolymer latexes prepared by two-step polymerization as)
- IT Coating materials
(binders for, diene copolymer latexes prepared by two-step emulsion polymerization as)
- IT Fibers
RL: USES (Uses)
(bonding of, binders for, diene copolymer latexes prepared by two-step emulsion polymerization as)
- IT Paper
(coating of, binders for, diene copolymer latexes prepared by two-step emulsion polymerization as)
- IT 6362-80-7, 2,4-Diphenyl-4-methyl-1-pentene 25103-58-6,
tert-Dodecylmercaptan
RL: USES (Uses)
(chain-transfer agents, for preparation of diene copolymer latexes, with high adhesion)
- IT 84170-35-4P, Acrylonitrile-butadiene-fumaric acid-methyl methacrylate-styrene copolymer
RL: PREP (Preparation)
(latexes, preparation of, by two-step polymerization using alkylthiol chain-transfer agents, with high adhesion)
- IT 6362-80-7, 2,4-Diphenyl-4-methyl-1-pentene
RL: USES (Uses)
(chain-transfer agents, for preparation of diene copolymer latexes, with high adhesion)
- RN 6362-80-7 HCAPLUS
- CN Benzene, 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bis- (9CI) (CA INDEX NAME)



AN 1992:153970 HCAPLUS
 DN 116:153970
 TI Manufacture of diene polymer latexes with low odor
 IN Tsuruoka, Katsuhiko; Ishikawa, Osamu; Wakamori, Masabumi; Nishida, Shozo
 PA Japan Synthetic Rubber Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03277602	A2	19911209	JP 1990-79699	19900328
	JP 2841669	B2	19981224		
PRAI	JP 1990-79699		19900328		

AB The title latexes, useful as adhesives and coatings, are prepared by **emulsion polymerization** of a mixture containing monomers (conjugated dienes 10-80, unsatd. carboxylic acids 0.5-10, and vinyl monomers 10-89%) 100, chain-transfer agent 0.1-10, and rosin or a derivative (odor reduction agent) 0.1-20 parts at pH ≤ 7.5 . The 2-step **emulsion polymerization** of butadiene, styrene, Me methacrylate, itaconic acid, and acrylic acid in the presence of rosin, tert-dodecyl mercaptan, K2S2O8, and emulsifier at 70° and pH ≤ 2.5 gave polymers having less odor than polymers prepared without rosin.

IC ICM C08F002-38
 ICS C08F002-44; C08F212-06; C08F236-04

ICA C08F220-04

CC 42-10 (Coatings, Inks, and Related Products)
 Section cross-reference(s): 37, 38, 43

ST butadiene copolymer latex odor redn; **emulsion polymn**
 butadiene odor redn; styrene butadiene copolymer odor redn; acrylic acid
 butadiene copolymer odor; mercaptan butadiene copolymer odor redn

IT Paper
 (coatings for, butadiene copolymer latexes as, with low odor)

IT Coating materials
 (for paper, butadiene copolymer latexes as, with low odor)

IT Chain-transfer agents

Rosin

RL: USES (Uses)

(in butadiene copolymer latex manufacture, for low odor)

IT **Polymerization**

(**emulsion**, in butadiene copolymer manufacture, for low odor)

IT Resin acids and Rosin acids

RL: USES (Uses)

(esters, in butadiene copolymer latex manufacture, for low odor)

IT Rosin

RL: USES (Uses)

(hydrogenated, in butadiene copolymer latex manufacture, for low odor)

IT Rosin

RL: USES (Uses)

(maleated, in butadiene copolymer latex manufacture, for low odor)

IT Alkyd resins

RL: USES (Uses)

(rosin-based, in butadiene copolymer latex manufacture, for low odor)

IT 97-77-8, Tetraethylthiuram sulfide 6144-04-3,
 α -Methylstyrene dimer 25103-58-6, tert-Dodecyl mercaptan

RL: USES (Uses)

(chain-transfer agents, in butadiene copolymer, for latex with low odor)

IT 70857-14-6P, Acrylic acid-butadiene-itaconic acid-methyl

methacrylate-styrene copolymer 77809-67-7P, Acrylic acid-butadiene-2-hydroxyethyl acrylate-itaconic acid-methyl methacrylate-styrene copolymer 85600-91-5P, Acrylic acid-acrylonitrile-butadiene-fumaric acid-methyl methacrylate-styrene copolymer 91829-76-4P, Acrylic acid-acrylonitrile-butadiene-itaconic acid-methyl methacrylate-styrene copolymer 94927-11-4P, Acrylamide-acrylic acid-butadiene-itaconic acid-methyl methacrylate-styrene copolymer

RL: PREP (Preparation)

(latex, preparation of, with low odor, rosin for)

IT 6144-04-3, α -Methylstyrene dimer

RL: USES (Uses)

(chain-transfer agents, in butadiene copolymn., for latex with low odor)

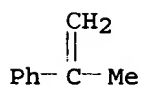
RN 6144-04-3 HCAPLUS

CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)

CM 1

CRN 98-83-9

CMF C9 H10



L69 ANSWER 53 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1991:609767 HCAPLUS

DN 115:209767

TI diene-acrylate copolymer latex for carpet backing

IN Yonekawa, Yoshiaki; Watabe, Yasuhisa; Miki, Hiroyuki; Hirahara, Akio

PA Japan Synthetic Rubber Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03121179	A2	19910523	JP 1989-258575	19891003
	JP 08006077	B4	19960124		
PRAI	JP 1989-258575		19891003		

AB The title latexes are prepared by **emulsion polymerization** of aliphatic conjugated dienes or alkyl (meth)acrylates 2-70, unsatd. carboxylic acids 0-8, and comonomers 22-98% containing 0.05-20 phr selected chain-transfer agent. **Polymerizing** a mixture of butadiene 50, styrene 37, Me methacrylate 10, and acrylic acid 3% containing α -methylstyrene **dimer** 1.5, anionic surfactant 3, and Na2S2O8 0.5 phr in water at 40-60° for 20 h gave a latex. This latex, containing 400 phr CaCO₃, gave a backing with peel strength 3.4 kg/5 cm and bonding strength 3.6 kg/pile.

IC ICM C09J133-06

ICS C08L033-06; D06M015-693

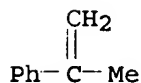
CC 38-3 (Plastics Fabrication and Uses)

ST butadiene copolymer carpet backing; methacrylate copolymer carpet backing; styrene copolymer carpet backing; carpet backing polymer **emulsion**; chain transfer agent butadiene **emulsion polymn**

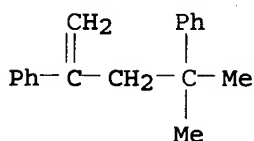
IT Chain-transfer agents

(for emulsion polymerization of dienes with acrylic compds.)

- IT Carpets
(backings, diene-acrylate copolymer emulsions, manufacture of)
- IT Adhesives
(emulsion, diene-acrylate copolymer, for carpet backings)
- IT 56-23-5, Carbon tetrachloride, uses and miscellaneous 97-77-8 99-85-4,
γ-Terpinene 99-86-5, α-Terpinene 138-86-3 504-90-5D,
Thiuramdisulfide, derivs. 4741-30-4D, Carbonodithioic acid, O-alkyl
esters 6144-04-3, α-Methylstyrene dimer
6362-80-7, Nofmer MSD 25103-58-6, tert-Dodecylmercaptan
RL: USES (Uses)
(chain-transfer agent, for emulsion polymerization of
dienes with acrylic compds.)
- IT 26590-06-7 26603-97-4 55492-39-2 70857-06-6
RL: USES (Uses)
(emulsions, for carpet backing, manufacture of)
- IT 6144-04-3, α-Methylstyrene dimer 6362-80-7
, Nofmer MSD
RL: USES (Uses)
(chain-transfer agent, for emulsion polymerization of
dienes with acrylic compds.)
- RN 6144-04-3 HCAPLUS
- CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)
- CM 1
- CRN 98-83-9
- CMF C9 H10



- RN 6362-80-7 HCAPLUS
- CN Benzene, 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bis- (9CI) (CA INDEX NAME)



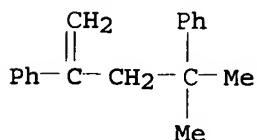
- L69 ANSWER 54 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN
- AN 1991:472466 HCAPLUS
- DN 115:72466
- TI Manufacture of polymer latexes for carpet backing, adhesives, and paper coating
- IN Tsuruoka, Katsuhiko; Nishida, Shozo; Wakamori, Masafumi; Tanaka, Takemitsu; Yada, Masaaki; Ishikawa, Osamu; Miki, Hiroyuki
- PA Japan Synthetic Rubber Co., Ltd., Japan
- SO Eur. Pat. Appl., 47 pp.
CODEN: EPXXDW
- DT Patent

LA English

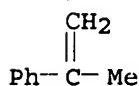
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 407059	A2	19910109	EP 1990-306738	19900620
	EP 407059	A3	19910320		
	EP 407059	B1	19941109		
	R: DE, FR, GB				
	JP 03113096	A2	19910514	JP 1989-273003	19891020
	JP 2555294	B2	19961120		
	JP 03166201	A2	19910718	JP 1989-306056	19891124
	JP 03166202	A2	19910718	JP 1989-306057	19891124
	JP 03113097	A2	19910514	JP 1989-320952	19891211
	JP 2541324	B2	19961009		
	JP 03109470	A2	19910509	JP 1989-323479	19891213
	JP 07076324	B4	19950816		
	JP 03109450	A2	19910509	JP 1989-323482	19891213
	JP 2792165	B2	19980827		
	JP 09118841	A2	19970506	JP 1996-210623	19891213
	JP 2820128	B2	19981105		
	JP 03008896	A2	19910116	JP 1989-326930	19891215
	JP 2765137	B2	19980611		
	JP 03109451	A2	19910509	JP 1989-327973	19891218
	JP 2792166	B2	19980827		
	JP 03227303	A2	19911008	JP 1989-331956	19891221
	JP 2779392	B2	19980723		
	US 5444118	A	19950822	US 1993-34210	19930319
	US 5637644	A	19970610	US 1994-313911	19940928
	US 5786100	A	19980728	US 1995-436491	19950508
PRAI	JP 1989-169142	A	19890630		
	JP 1989-298581	A	19891116		
	JP 1989-306056	A	19891124		
	JP 1989-306057	A	19891124		
	JP 1989-326930	A	19891215		
	JP 1989-327973	A	19891218		
	JP 1988-316997	A1	19881215		
	JP 1989-323479	A3	19891213		
	US 1990-540948	B1	19900620		
	US 1993-34210	A1	19930319		
	US 1994-313911	A3	19940928		
AB	The title latexes, containing $\geq 5\%$ gel, are prepared by polymerizing conjugated dienes 2-80, unsatd. carboxylic acids 0.1-10, and comonomers 10-97.9% in the presence of <u>chain-transfer agents</u> [α -methylstyrene dimer (I), disulfides, specified hydrocarbons, unsatd. heterocyclic compds., acyclic compds. containing ≥ 2 unsatd. groups, mixts. of 5-95:5-95 terpinene and alkanethiols, halohydrocarbons]. Thus, a latex prepared by 2-stage emulsion polymerization of butadiene 25, styrene 49, Me methacrylate 15, acrylonitrile 8, itaconic acid 2, and acrylic acid 1 part in the presence of 3.0 parts I contained 60% gel and had good resistance to dry picking and blistering.				
IC	ICM C08F236-04				
	ICS C08F002-38				
CC	35-4 (Chemistry of Synthetic High Polymers)				
	Section cross-reference(s): 38, 42, 43				
ST	chain transfer emulsion polymn ; methylstyrene dimer chain transfer; butadiene copolymer gel latex; methacrylate copolymer gel latex; acrylonitrile copolymer gel latex; itaconic acid copolymer latex				
IT	Adhesives				
	(acrylic compound-diene copolymer latexes, manufacture of, chain-transfer				

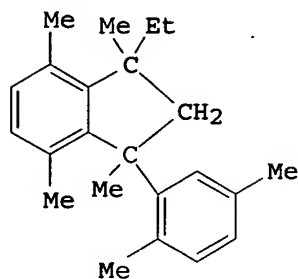
- agents for)
- IT Disulfides
Terpenes and Terpenoids, uses and miscellaneous
RL: USES (Uses)
(chain-transfer agents, in emulsion polymerization)
- IT Paper
(coatings for, polymer latexes as, chain-transfer agents for manufacture of)
- IT Chain-transfer agents
(for emulsion polymerization of dienes with acrylic
compsd.)
- IT Alkenes, uses and miscellaneous
RL: USES (Uses)
(aryl, chain-transfer agents, in emulsion polymerization)
- IT Carpets
(backings, acrylic compound-diene copolyer latexes, manufacture of,
chain-transfer agents for)
- IT Coating materials
(blistering-resistant, acrylic compound-diene copolyer latexes, manufacture
of, chain-transfer agents for)
- IT Heterocyclic compounds
RL: USES (Uses)
(unsatd., chain-transfer agents, in emulsion polymn
.)
- IT 56-23-5, Carbon tetrachloride, uses and miscellaneous 92-83-1, Xanthene
97-77-8 119-64-2, 1,2,3,4-Tetrahydronaphthalene 254-03-5, 4H-Chromene
254-04-6, 2H-Chromene 271-26-1, 3H-Indole 289-65-6, γ -Pyran
289-66-7, α -Pyran 493-04-9, 1,4,5,8-Tetrahydronaphthalene
496-14-0, Phthalan 502-55-6, Diethylxanthogen disulfide 586-62-9,
Terpinolene 592-45-0, 1,4-Hexadiene 612-17-9, 1,4-Dihydronaphthalene
613-31-0, 9,10-Dihydroanthracene 628-41-1, 1,4-Cyclohexadiene
1468-37-7, Dimethylxanthogen disulfide 1708-29-8, 2,5-Dihydrofuran
3174-74-1, 3,6-Dihydro-2H-pyran 6362-80-7, Nofmer MSD
19947-22-9, 3-Phenyl-1-pentene 25103-58-6, tert-Dodecylmercaptan
27911-12-2, 1-Phenyl-2-pentene 91801-84-2
RL: USES (Uses)
(chain-transfer agents, in emulsion polymerization)
- IT 25085-39-6 26603-97-4 41476-33-9 70857-06-6 70857-14-6
82761-79-3 85600-91-5 91829-76-4 94927-11-4 106440-03-3
114292-42-1 122083-84-5 134364-40-2 134364-41-3 134364-42-4
134364-43-5 135244-33-6
RL: USES (Uses)
(latexes, manufacture of gels, chain-transfer agents for)
- IT 6362-80-7, Nofmer MSD
RL: USES (Uses)
(chain-transfer agents, in emulsion polymerization)
- RN 6362-80-7 HCAPLUS
- CN Benzene, 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bis- (9CI) (CA
INDEX NAME)



DN 100:86192
 TI Emulsion copolymerization of styrene and acrylonitrile with
 α -methylstyrene dimer as the regulator
 AU Ye, Jinyong; Luo, Dexin
 CS Dep. Chem., Fudan Univ., Shanghai, Peop. Rep. China
 SO Gaofenzi Tongxun (1983), (4), 306-9
 CODEN: KFTTAR; ISSN: 0453-2880
 DT Journal
 LA Chinese
 AB The mol. weight of acrylonitrile-styrene copolymer (I) [9003-54-7] decreased
 with increasing amts. of α -methylstyrene dimer (II) [6144-04-3]. The mol. weight and homogeneity of the I composition were
 controlled by adding dropwise simultaneously the monomers and II in the
 emulsion polymerization
 CC 35-4 (Chemistry of Synthetic High Polymers)
 ST acrylonitrile styrene copolymer; emulsion polymn
 acrylonitrile styrene; methylstyrene dimer mol wt regulator
 IT Chain-transfer agents
 (methylstyrene dimer, in emulsion polymerization
 of acrylonitrile with styrene)
 IT 6144-04-3
 RL: USES (Uses)
 (chain-transfer agents, in emulsion polymerization of
 acrylonitrile with styrene)
 IT 9003-54-7P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, in presence of methylstyrene dimer as mol. weight
 regulator)
 IT 6144-04-3
 RL: USES (Uses)
 (chain-transfer agents, in emulsion polymerization of
 acrylonitrile with styrene)
 RN 6144-04-3 HCAPLUS
 CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)
 CM 1
 CRN 98-83-9
 CMF C9 H10



L69 ANSWER 56 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1979:457592 HCAPLUS
 DN 91:57592
 TI Cationic polymerization of α -methylstyrene methyl derivatives
 AU Sadykhov, Z. A.; Khanlarov, T. G.
 CS Azerb. Gos. Univ., Baku, USSR
 SO Vysokomolekulyarnye Soedineniya, Seriya A (1979), 21(5), 1120-5
 CODEN: VYSAAF; ISSN: 0507-5475
 DT Journal
 LA Russian
 GI



I

- AB The polymerization of o-isopropenyltoluene or isopropenyl-p-xylene in the presence of 0.1-2% AlCl₃ solution in MeCl at -120 to +20° gave only dimers, viz., 2,4-di(o-tolyl)-4-methyl-1-hexene [70794-75-1], and 1,3,4,7-tetramethyl-1-ethyl-3-p-xylylindane (I) [70794-76-2], resp. Under similar conditions, m-isopropenyltoluene forms oligomers containing ArC:CH₂ terminal groups. The polymerization of p-isopropenyltoluene gave linear and crosslinked poly(p-isopropenyltoluene) (II) [27599-43-5]. Linear II contains terminal ArC:CH₂ and ArC(Me):CH-groups. The formation of crosslinked II is attributed to alkylation of the aromatic ring of the macromol. by a benzyl-type carbonium ion formed by a **chain transfer** reaction. The mechanism was confirmed by a model alkylation reaction of p-cymene [99-87-6] with PhCH₂Cl [100-44-7] in the presence of AlCl₃. The alkylation product is benzyl-p-cymene [70804-41-0].
- CC 35-3 (Synthetic High Polymers)
- ST polymn cationic methylstyrene deriv; dimerization methylstyrene deriv; mechanism polymn methylstyrene deriv; isopropenylxylene cationic polymn; isopropenyltoluene cationic polymn; polyisopropenyltoluene crosslinking alkylation; cymene alkylation benzyl chloride
- IT Dimerization catalysts
(aluminum chloride, for isopropenyltoluene and isopropenylxylene)
- IT Polymerization catalysts
(aluminum chloride, for methylstyrene Me derivs.)
- IT Alkylation
(of cymene by benzyl chloride)
- IT Crosslinking
(of poly(isopropenyltoluene), by alkylation of aromatic ring)
- IT Dimerization
(cationic, of isopropenyltoluene and isopropenylxylene)
- IT Polymerization
(cationic, of methylstyrene Me derivs., mechanism of)
- IT 100-44-7, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(alkylation by, of cymene)
- IT 99-87-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(alkylation of, by benzyl chloride)
- IT 27599-43-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of crosslinked, alkylation of aromatic ring in)
- IT 70804-41-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, by alkylation of cymene, simulated polymerization of methylstyrene derivative in)
- IT 70794-75-1P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, by cationic dimerization of isopropenyltoluene)

IT 70794-76-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, by cationic dimerization of isopropenylxylene)

L69 ANSWER 57 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1972:565135 HCAPLUS
DN 77:165135
TI Polymerization of styrene in the presence of an elastomeric component.
II. Dimers of α -methylstyrene as molecular-weight modifiers
AU Jarm, Vida; Janovic, Zvonimir; Svob, Ana
CS Inst. Res. Dev., Zagreb, Yugoslavia
SO Hemijska Industrija (1972), 26(8), 309-13
CODEN: HMIDA8; ISSN: 0367-598X
DT Journal
LA Croatian
AB Determination of the chain transfer consts. of
 α -methylstyrene dimers showed that 2,4-diphenyl-4-methyl-1-
pentene [6362-80-7] was the most effective chain
transfer agent in the polymerization of styrene. Graft polymerization of
styrene on butadiene rubber using a peroxide catalyst was also discussed.

CC 35-4 (Synthetic High Polymers)
ST diphenylmethylpenetene chain transfer; styrene
chain transfer; rubber butadiene graft; polymn graft
styrene

IT Rubber, butadiene-styrene, preparation
(graft, chain transfer agents for use in)

IT Polymerization
(graft, of styrene on butadiene rubber, chain
transfer agents for use in)

IT Chain-transfer agents
(methylstyrene dimers, for polymerization of styrene)

IT 6144-04-3 6362-80-7
RL: USES (Uses)
(chain transfer agent, for polymerization of styrene)

IT 9003-53-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, chain transfer agents for use in)

IT 106974-54-3
(rubber, butadiene-styrene; graft, chain transfer
agents for use in)

L69 ANSWER 58 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1967:454776 HCAPLUS
DN 67:54776
TI Polymerization of monovinyl aromatic compounds with acrylonitrile
IN Finestone, Arnold B.; Goldberg, Gerald
PA Foster Grant Co., Inc.
SO Fr., 6 pp.
CODEN: FRXXAK
DT Patent
LA French
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI FR 1463228		19661223		
PRAI US		19641207		
AB	Shock- and solvent-resistant acrylonitrile-butadiene-styrene polymers (I) having high tensile and bending strengths and good run-off properties are			

prepared by suspension or emulsion polymerization of a mixture containing 60-80 parts monovinyl aromatic monomer, 20-40 parts nitrile monomer, 5-30 parts butadiene-type rubber, 0.25-10 weight% low-mol.-weight (<35,000) polystyrene prepared thermally, and an optional mol.-weight modifier. Thus, 24:76 styrene-butadiene rubber 14.9, styrene 64.6, H₂C:CHCN 20.3, and antioxidant 0.2 part were prepolymd. at 25° for 6 hrs., maintained under N for 16 hrs., heated to 90°, and maintained under N for 6 hrs. A suspension of H₂C:CHCN 2.3, poly(vinyl alc.) 0.4, lauryl peroxide 1.3, NaCl 0.7, and prepolymer 31.8 parts in 64.7 parts water containing 5 weight% polystyrene (mol. weight 20,000) was heated at 75° for 5 hrs. and cooled to 35° to precipitate an ABS polymer having an apparent viscosity $\eta = 29.9 + 103$ poises. Adding 0.2 weight% α -methylstyrene dimer instead of the polystyrene resulted in $\eta = 29.9 + 103$ poises, while adding both compds. gave $\eta = 22.1 + 103$ poises. Increasing the concns. of the styrene additives decreased η . Stereoregular polybutadiene, dodecyl mercaptan, and (or) H₂C:CMcCN could be used in place of styrene-butadiene rubber, dimer, and H₂C:CHCN, resp.

IC C08F

CC 36 (Plastics Manufacture and Processing)

ST COPOLYMERS ACRYLONITRILE IMPACT RESISTANT; ACRYLONITRILE COPOLYMERS IMPACT RESISTANT

IT Rubber, butadiene, preparation

Rubber, butadiene-styrene, preparation

(acrylonitrile- and styrene-grafted, shock- and solvent resistant)

IT 100-42-5P, Styrene, preparation

RL: PREP (Preparation)

(polymers with acrylonitrile, butadiene rubber, butadiene-styrene rubber and α -methylstyrene dimers, shock- and solvent-resistant)

IT 6144-04-3

RL: USES (Uses)

(polymers with acrylonitrile, butadiene-styrene rubber and styrene, shock- and solvent-resistant)

IT 107-13-1P, Acrylonitrile, preparation

RL: PREP (Preparation)

(polymers with butadiene rubber, butadiene-styrene rubber, α -methylstyrene dimers and styrene, graft, shock- and solvent-resistant)

IT 9003-55-8

(rubber, butadiene-styrene; acrylonitrile- and styrene-grafted, shock- and solvent resistant)

IT 9003-17-2

(rubber, butadiene; acrylonitrile- and styrene-grafted, shock- and solvent resistant)

IT 6144-04-3

RL: USES (Uses)

(polymers with acrylonitrile, butadiene-styrene rubber and styrene, shock- and solvent-resistant)

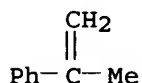
RN 6144-04-3 HCAPLUS

CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)

CM 1

CRN 98-83-9

CMF C9 H10



L69 ANSWER 59 OF 59 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1959:4332 HCAPLUS

DN 53:4332

OREF 53:767a-d

TI Modifiers for copolymerization of conjugated diolefins

PA Polymer Corp. Ltd.

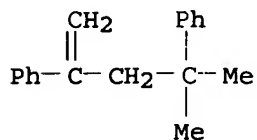
DT Patent

LA Unavailable

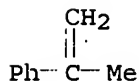
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 795706		19580528	GB	
AB	<p>A dimer (I) of α-methylstyrene consisting of a mixture of $\text{CH}_2:\text{CPhCH}_2\text{CMe}_2\text{Ph}$ and $\text{MeCPh:CHCMe}_2\text{Ph}$ was used as modifier and $\text{Cl}_2\text{H}_25\text{SH}$ (II) as both modifier and especially as a promoter for the production of copolymers of conjugated diolefins, e.g., $\text{CH}_2:\text{CRCR}':\text{CH}_2$ ($\text{R}, \text{R}' = \text{H}$ (III); $\text{R}, \text{R}' = \text{Me}$; $\text{R} = \text{H}, \text{R}' = \text{Cl}$ or Me) or $(\text{CH}_2:\text{CH})_2\text{CH}_2$, and vinyl monomers, e.g., PhR'' (IV), $p\text{-ClC}_6\text{H}_4\text{R}''$, $\text{Cl}_2\text{C}_6\text{H}_3\text{R}''$, $\text{MeO}_2\text{CR}''$, $\text{MeO}_2\text{CCMe:CH}_2$, $\text{R}''\text{CN}$ ($\text{R}'' = \text{vinyl}$). The process was carried out under different emulsion polymerization conditions. Thus, III 71, IV 29, H_2O 180, Na stearate 4, $\text{K}_2\text{S}_2\text{O}_8$ 0.3, II 0.42, and I 1.0 part by weight were polymerized at 50°. Samples were taken out up to a conversion of 85.2% of the monomer mixture to test intrinsic viscosity and solubility in C_6H_6. The increase of intrinsic viscosity and the complete solubility of the copolymer in C_6H_6 showed the absence of appreciable amts. of branched and cross-linked polymers. In other expts., the efficiency of II as promoter and I as modifier were verified.</p>				
CC	31 (Synthetic Resins and Plastics)				
IT	Polymerization				
	(of olefins (conjugated di-), α -methylstyrene dimer promoted by $\text{Cl}_2\text{H}_25\text{SH}$ as modifiers for)				
IT	SBR rubber				
	(polymerization in manufacture of, α -methylstyrene dimer - $\text{Cl}_2\text{H}_25\text{SH}$ modifiers in)				
IT	Olefins				
	(polymerization of di-, α -methylstyrene dimer promoted by $\text{Cl}_2\text{H}_25\text{SH}$ as modifier in)				
IT	Vinyl compounds				
	(polymerization of, with olefins (conjugated di-), α -methylstyrene dimer promoted by $\text{Cl}_2\text{H}_25\text{SH}$ as modifier in)				
IT	6362-80-7, 1-Pentene, 4-methyl-2,4-diphenyl-				
	(as polymerization modifier with $\text{Cl}_2\text{H}_25\text{SH}$ for conjugated diolefins)				
IT	6258-73-7, 2-Pentene, 4-methyl-2,4-diphenyl-				
	(as polymerization modifier with $\text{Cl}_2\text{H}_26\text{SH}$ for conjugated diolefins)				
IT	112-55-0, 1-Dodecanethiol				
	(as polymerization modifier, with α -methylstyrene dimer in diolefin polymerization)				
IT	6144-04-3, Styrene, α -methyl-, dimer				
	(polymerization modifier from $\text{Cl}_2\text{H}_25\text{SH}$ and, for conjugated diolefins)				
IT	100-42-5, Styrene				
	(polymerization of, with conjugated diolefins, α -methylstyrene dimer and $\text{Cl}_2\text{H}_25\text{SH}$ as modifiers in)				
IT	106-99-0, 1,3-Butadiene 107-13-1, Acrylonitrile				

(polymerization of, with vinyl compds., α -methylstyrene
dimer promoted by C12H25SH as modifier in)
IT 6362-80-7, 1-Pentene, 4-methyl-2,4-diphenyl-
(as polymerization modifier with C12H25SH for conjugated diolefins)
RN 6362-80-7 HCAPLUS
CN Benzene, 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bis- (9CI) (CA
INDEX NAME)



IT 6144-04-3, Styrene, α -methyl-, dimer
(polymerization modifier from C12H25SH and, for conjugated diolefins)
RN 6144-04-3 HCAPLUS
CN Benzene, (1-methylethenyl)-, dimer (9CI) (CA INDEX NAME)
CM 1
CRN 98-83-9
CMF C9 H10



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